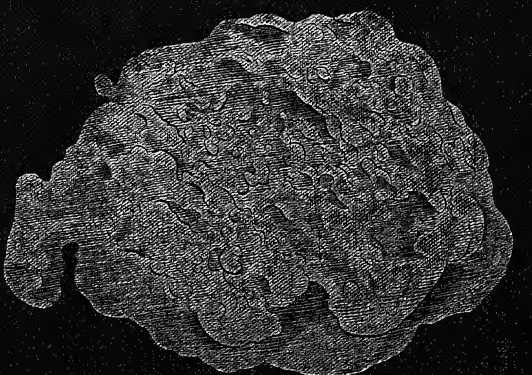
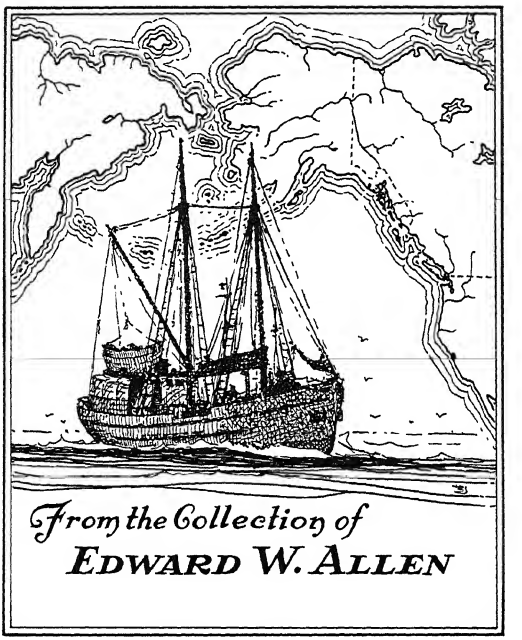
KLONDYKE FACTS



A KLONDYKE NUGGET

JOSEPH LADUE,
Founder of Dawson City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EDWARD W. ALLEN

JOSEPH LADUE
FOUNDER OF DAWSON CITY

KLONDYKE FACTS

BEING A COMPLETE

GUIDE BOOK TO THE GOLD REGIONS

OF THE GREAT

CANADIAN NORTHWEST TERRITORIES

AND

ALASKA

BY JOSEPH LADUE

AUTHOR OF "KLONDYKE NUGGETS," AND FOUNDER OF DAWSON CITY, N.W.T.,

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NEW YORK

AMERICAN TECHNICAL BOOK CO.,

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PUBLISHER'S NOTE.

THE intense excitement caused by the marvellous discoveries of gold in Alaska and the great Canadian Northwest makes it necessary that authentic facts regarding this region should be supplied to the reading public.

It is with pleasure that we introduce Mr. Joseph Ladue, the pioneer prospector and founder of Dawson City, N. W. T., the central point of the gold region, as the author of this valuable work of reliable information.

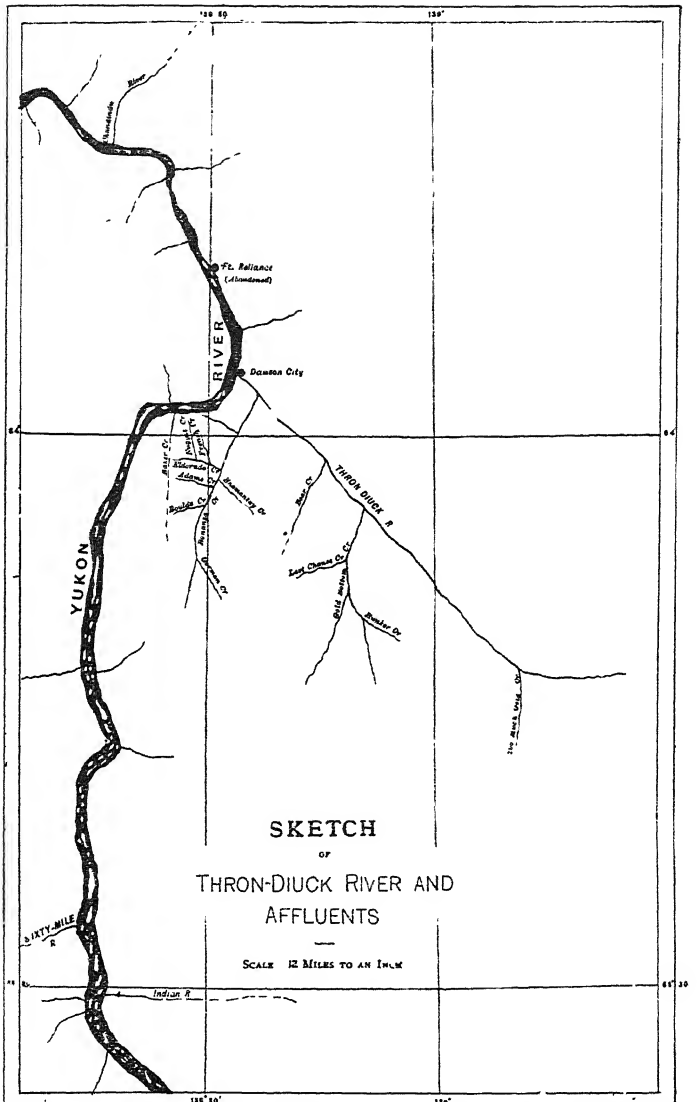
There is probably no man living who is better posted on Alaska and the great Northwest than Mr. Joseph Ladue. He has just returned from that country to his old home in Schuyler Falls, N. Y., where he passed a large portion of his boyhood and early manhood. Mr. Ladue left his home nearly twenty years ago to seek his fortune in the West, going first to the Black Hills, where he was successful in gold mining, thence to Arizona and the Pacific Coast, and finally located in Alaska and the Northwest Territories, where he has been since 1883. Mr. Ladue is a typical pioneer, strong, hardy and resolute, a man of iron, as one must needs be to go through the hardships he has and come out with a constitution unbroken and unimpaired at the age of about forty-three. Mr. Ladue has not only worked his muscles to good advantage to himself with the result of an abundance of this world's goods, but he has evidently all this time been closely observing the conditions of that strange country, the Yukon Valley, which has so suddenly become one of the great centres upon which human interest throughout the world is focussed.

When the wonderful stories began to come down from the Yukon country it was naturally concluded that it was at least half exaggeration. That any such amount of gold could be taken in so short a time from a country like that under the most unfavorable conditions was held to be incredible. But when the great bags of virgin gold began to be poured out upon the mint counters in San Francisco under the eyes of the whole world (for modern journalism does this annihilating of time and space) people began to wonder, and the wonder grew day by day as the real facts were disclosed; and now people who are well informed as to the facts declare that half the truth has not been told of the golden treasures of the Yukon Valley.

As we have already said, there is probably no man to-day alive who knows more about this wonderful country than does Mr. Ladue. What makes his talk of it specially interesting and reliable is the fact that his knowledge of it is practical. It has not been gained from hearsay nor from desultory visits made now and then at certain favorable seasons of the year, but from steady living there through the long summer days and the long winter nights, year in and year out, for fifteen years, where he now owns thirteen of the best mining claims on the Klondyke and 173 acres of land at Dawson City.

In presenting this work to the public we do so knowing that it is by an authority on the subject of which he writes.

THE PUBLISHERS



THIS MAP SHOWS THE STREAM ON WHICH THE PLACER CLAIMS ARE LOCATED

CONTENTS.

INTRODUCTION.

MUCH has appeared in the newspapers of the world regarding the newly discovered gold-fields of Alaska and the great Canadian Northwest.

To one who has prospected and lived in these territories for the past fifteen years, it is deplorable that so much unreliable information has appeared.

My object is not to induce any one to go to that remote country at the present time; until better means of communication are established, a man undertakes serious risks in going there unless he has sufficient resources to tide over the long winter. After September, egress from the country is practically impossible until the following June, and a person who has not been successful in locating a paying claim has to depend for his subsistence upon finding employment. Wages are at times abnormally high, but the labor market is very narrow and easily overstocked. It is estimated that up to the middle of May 1,500 to 1,600 people had crossed the Taiya Pass this year. Whether employment will be available for all and for the considerable population already in the district is somewhat doubtful; it will therefore be wise for those who contemplate going to the Yukon District to give serious consideration to the matter before coming to a decision.

Having recently returned for a short time to my old home I find myself deluged with letters from all classes of men eagerly seeking facts relative to the new gold region. As it is impossible to reply to all these letters in a manner

that would be adequate and complete, I have decided to publish some of my observations and experiences in the land that is yet comparatively unexplored. I will give the actual facts and such information as I think will be valuable to the intending prospectors of the new gold regions.

JOSEPH LADUE.

KLONDYKE FACTS.

CHAPTER I.

HISTORICAL AND GEOGRAPHICAL.

THE discovery of the great Yukon River and the territory drained by it is due to the Hudson Bay Company and the adventurous officers who directed its interests in British North America. Indeed, the discovery of the Yukon itself is due to Robert Campbell, an employe of the company, who named it the Pelley River in honor of Sir H. Pelley, a governor of the company.

In 1867 Frank E. Ketchum, of St. John, N. B., and Michael Labarge of Montreal, explorers in the employ of the Western Union Telegraph Company, ascended the Yukon from Fort Yukon to the mouth of the Lewes, returning down the river, and in the same year Michael Byrnes, in the same employ, made a trip from the direction of the Stikine and reached the Hootolinqua, not the river subsequently so called by the miners, but that on the survey map of Canada.

Mr. Whymper in 1869, in his work. "Travels in Alaska and on the Yukon," makes the first distinct mention in print of the discovery of gold. The report of Campbell to the Hudson Bay Company directors was made orally. Mr. Whymper in his book says: "It is worthy

of mention that minute specks of gold have been found by some of the Hudson Bay Company's men in the Yukon, but not in quantities to warrant a "rush" to the locality."

George Holt, who afterward was murdered by Indians at Cook's Inlet, was the first white man who crossed from the coast to the headwaters of the Lewes, with no purpose other than prospecting the country. The date is variously set from 1872 to 1878, but the preponderance of testimony makes the latter date the more probable one. He was accompanied by two Indians and crossed by the Chilkoot Pass. On his return he reported the discovery of "coarse gold." His trip was authenticated by inquiry among miners who had followed the routes he told them of.

The Yukon district is not the entirely wild, savage, unknown land which romancists have been painting it. Gold, in paying quantities has been found there for over a decade, In 1887 a hundred and fifty hardy miners, making no secret of the wealth of the drift they washed, amassed fortunes there.

The Yukon District has been growing, as access to the country became more easy and the output has been the greater only because the placer diggings have been extended and have been worked by more hands. Add to the present comparative facility of reaching there the general diffusion of knowledge of the wealth of the mineral through the newspapers and the consequent interest excited, and you have explained the difference between the excitement of 1897 and the languor of 1887. And yet, in 1887, Dr. George M. Dawson, the chief of an exploring party sent by the Canadian Government into the Yukon district made a report confirming in the fullest the presence of gold in great quantities. Dawson, City, N. W. T., the principal mining camp in the Klondyke region, was named in his honor.

Possibly the conjecture, accepted as a fact, that this

land, in the language of a late Canadian cabinet minister, was "the home of the bear and the wolf, and fit only to be the home of such," had something to do with the indifference. With the Yukon, snow that was practically perpetual, and great mountains of ice seemed indissolubly connected. It was taken for granted that it was a land not fit to live in and that stories from it had to be accepted with great allowance for the extravagance of language in which men who lived in Arctic lands are likely to indulge when they reach territory, where the sun gives warmth, for warmth is conducive to garrulity and exuberance of thought.

In 1859 negotiations were commenced between Russia and the United States with the view of the United States purchasing Russian America, or Alaska, a territory of over five hundred thousand square miles.

In March, 1867, Secretary Seward made an offer of $7,200,000, on condition that the cession be "free and unencumbered by any reservations, privileges, franchises, grants or possessions, by associated or unassociated companies whether corporated or unincorporated, Russian or any other."

In May the treaty was ratified, and on the 20th of July 1867 the usual proclamation was issued by the President of the United States.

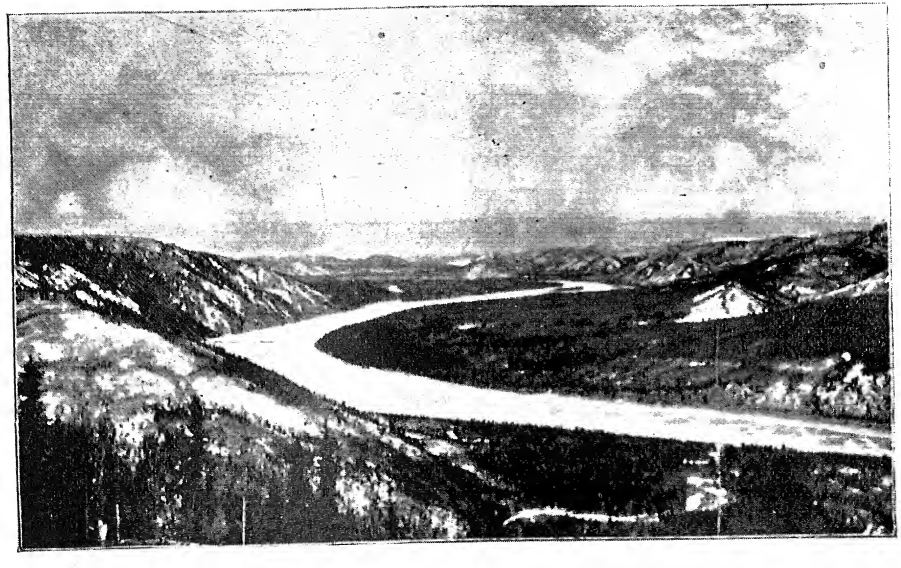
On the 18th of October, 1867, the formal transfer of Alaska was made at Sitka to General Rousseau representative of the United States.

The treaty between Russia and the United States, establishes the eastern and southern boundary lines as arranged by Russia and Great Britain in 1825. The western line includes the whole of the Aleutian Islands. Attou is distinctly named as the most westerly island ceded. The northern boundary is only limited by the ice and snow of the Arctic.

THE YUKON RIVER AND ITS TRIBUTARIES.

"What the Amazon is to South America, the Mississippi to the central portion of the United States, the Yukon is to Alaska. It is a great inland highway, which will make it possible for the explorer to penetrate the mysterious fastnesses of that still unknown region. The Yukon has its source in the Rocky Mountains of British Columbia and the Coast Range Mountains in southeastern Alaska, about 125 miles from the city of Juneau, which is the present metropolis of Alaska. But it is only known as the Yukon River at the point where the Pelly River, the branch that heads in British Columbia, meets with the Lewes River, which heads in southeastern Alaska. This point of confluence is at Fort Selkirk, in the Northwest Territory, about 125 miles southeast of the Klondyke. The Yukon proper is 2,044 miles in length. From Fort Selkirk it flows northwest 400 miles, just touching the Arctic circle; thence southward for a distance of 1,600 miles, where it empties into Behring Sea. It drains more than 600,000 square miles of territory, and discharges one-third more water into Behring Sea than does the Mississippi into the Gulf of Mexico. At its mouth it is sixty miles wide. About 1,500 miles inland it widens out from one to ten miles. A thousand islands send the channel in as many different directions. Only natives who are thoroughly familiar with the river are entrusted with the piloting of boats up the stream during the season of low water. Even at the season of high water it is still so shallow as not to be navigable anywhere by seagoing vessels, but only by flat-bottomed boats with a carrying capacity of four to five hundred tons. The draft of steamers on the Yukon should not exceed three and a half feet.

Alaska Canada



INTERNATIONAL BOUNDARY ACROSS THE YUKON RIVER (LOOKING NORTH)

"The Yukon district, which is within the jurisdiction of the Canadian Government and in which the bulk of the gold has been found, has a total area, approximately, of 192,000 square miles, of which 150,768 square miles are included in the watershed of the Yukon. Illustrating this, so that it may appeal with definiteness to the reader, it may be said that this territory is greater by 71,100 square miles than the area of Great Britain, and is nearly three times that of all the New England States combined.

"A further fact must be borne in mind. The Yukon River is absolutely closed to navigation during the winter months, In the winter the frost-king asserts his dominion and locks up all approaches with impenetrable ice, and the summer is of the briefest. It endures only for twelve to fourteen weeks, from about the first of June to the middle of September. Then an unending panorama of extraordinary picturesqueness is unfolded to the voyager. The banks are fringed with flowers, carpeted with the all-pervading moss or tundra. Birds countless in numbers and of infinite variety in plumage, sing out a welcome from every treetop. Pitch your tent where you will in midsummer, a bed of roses, a clump of poppies and a bunch of bluebells will adorn your camping. But high above this paradise of almost tropical exuberance giant glaciers sleep in the summit of the mountain wall, which rises up from a bed of roses. By September everything is changed. The bed of roses has disappeared before the icy breath of the winter king, which sends the thermometer down sometimes to seventy degrees below freezing point. The birds fly to the southland and the bear to his sleeping chamber in the mountains. Every stream becomes a sheet of ice, mountain and valley alike are covered with snow till the following May.

"That part of the basin of the Yukon in which gold in greater or less quantities has actually been found lies partly

in Alaska and partly in British territory. It covers an area of some 50,000 square miles. But so far the infinitely richest spot lies some one hundred miles east of the American boundary, in the region drained by the Klondyke and its tributaries. This is some three hundred miles by river from Circle City.

"We have described some of the beauties of the Yukon basin in the summer season, but this radiant picture has its obverse side.

"Horseflies, gnats and mosquitoes add to the joys of living throughout the entire length of the Yukon valley. The horsefly is larger and more poignantly assertive than the insect which we know by that name. In dressing or undressing, it has a pleasant habit of detecting any bare spot in the body and biting out a piece of flesh, leaving a wound which a few days later looks like an incipient boil. Schwatka reports that one of his party, so bitten was completely disabled for a week. 'At the moment of infliction.' he adds, 'it was hard to believe that one was not disabled for life.'

"The mosquitoes according to the same authority are equally distressing. They are especially fond of cattle, but without any reciprocity of affection. 'According to the general terms of the survival of the fittest and the growth of muscles most used to the detriment of others,' says the lieutenant in an unusual burst of humor, 'a band of cattle inhabiting this district, in the far future, would be all tail and no body, unless the mosquitoes should experience a change of numbers.'"

I am indebted to Wm. Ogilvie, Esq., for the following valuable information relative to The Yukon District.

"The Yukon District comprises, speaking generally, that part of the Northwest Territories lying west of the water shed of the Mackenzie River; most of it is drained by the Yukon River and its tributaries. It covers a distance

of about 650 miles along the river from the coast range of mountains.

"In 1848 Campbell established Fort Selkirk at the confluence of the Pelly and Lewes Rivers; it was plundered and destroyed in 1852 by the Coast Indians, and only the ruins now exist of what was at one time the most important post of the Hudson's Bay Company to the west of the Rocky Mountains in the far north. In 1869 the Hudson's Bay Company's officer was expelled from Fort Yukon by the United States Government, they having ascertained by astronomical observations that the post was not located in British territory. The officer thereupon ascended the Porcupine to a point which was supposed to be within British jurisdiction, where he established Rampart House; but in 1890 Mr. J. H. Turner of the United States Coast Survey found it to be 20 miles within the lines of the United States. Consequently in 1891 the post was moved 20 miles further up the river to be within British territory.

"The next people to enter the country for trading purposes were Messrs. Harper and McQuestion. They have been trading in the country since 1873 and have occupied numerous posts all along the river, the greater number of which have been abandoned. Mr. Harper is now located as a trader at Fort Selkirk, with Mr. Joseph Ladue under the firm name of Harper & Ladue, and Mr. McQuestion is in the employ of the Alaska Commercial Company at Circle City, which is the distributing point for the vast regions surrounding Birch Creek, Alaska. In 1882 a number of miners entered the Yukon country by the Taiya Pass; it is still the only route used to any extent by the miners, and is shorter than the other passes though not the lowest. In 1883 Lieutenant Schwatka crossed this same pass and descended the Lewes and Yukon Rivers to the ocean.

"The explorers found that in proximity to the boundary

line there existed extensive and valuable placer gold mines, in which even then as many as three hundred miners were at work. Mr. Ogilvie determined, by a series of lunar observations, the point at which the Yukon River is intersected by the 141st meridian, and marked the same on the ground. He also determined and marked the point at which the western affluent of the Yukon, known as Forty Mile Creek, is crossed by the same meridian line, that point being situated at a distance of about twenty-three miles from the mouth of the creek. This survey proved that the place which had been selected as the most convenient, owing to the physical conformation of the region, from which to distribute the supplies imported for the various mining camps, and from which to conduct the other business incident to the mining operations—a place situate at the confluence of the Forty Mile Creek and the Yukon, and to which the name of Fort Cudahy has been given—is well within Canadian territory. The greater proportion of the mines then being worked Mr. Ogilvie found to be on the Canadian side of the international boundary line, but he reported the existence of some mining fields to the south, the exact position of which with respect to the boundary he did not have the opportunity to fix.

"The number of persons engaged in mining in the locality mentioned has steadily increased year by year since the date of Mr. Ogilvie's survey, and it is estimated that at the commencement of the past season not less than one thousand men were so employed. Incident to this mineral development there must follow a corresponding growth in the volume of business of all descriptions, particularly the importation of dutiable goods, and the occupation of tracts of the public lands for mining purposes which according to the mining regulations are subject to the payment of certain prescribed dues and charges. The Alaska Com-

Fort Constantine Forty Mile Town

JUNCTION OF FORTY MILE AND YUKON RIVERS (right hand view.)

mercial Company, for many years subsequent to the retirement of the Hudson's Bay Company, had a practical monopoly of the trade of the Yukon, carrying into the country and delivering at various points along the river, without regard to the international boundary line or the customs laws and regulations of Canada, such articles of commerce as were required for the prosecution of the fur trade and latterly of placer mining, these being the only two existing industries. With the discovery of gold, however, came the organization of a competing company known as the North American Transportation and Trading Company, having its headquarters in Chicago and its chief trading and distributing post at Cudahy. This company has been engaged in this trade for over three years, and during the past season despatched two ocean steamers from San Francisco to St. Michael, at the mouth of the Yukon, the merchandise from which was, at the last mentioned point, transhipped into river steamers and carried to points inland, but chiefly to the company's distributing centre within Canadian territory. Importations of considerable value, consisting of the immediately requisite supplies of the miners, and their tools, also reach the Canadian portion of the Yukon District from Juneau, in the United States, by way of the Taiya Inlet, the mountain passes, and the chain of waterways leading therefrom to Cudahy. Upon none of these importations had any duty been collected, except a sum of $3,248.80 paid to Inspector Constantine in 1894, by the North American Transportation and Trading Company and others, and it is safe to conclude, especially when it is remembered that the country produces none of the articles consumed within it except fresh meat, that a large revenue was being lost to the public exchequer under the then existing conditions.

"For the purpose of ascertaining officially and authoritatively the condition of affairs to which the correspond-

ence referred to in the next preceding paragraph relates, the Honorable the President of the Privy Council, during the spring of 1894, despatched Inspector Charles Constantine, of the Northwest Mounted Police Force, accompanied by Sergeant Brown, to Fort Cudahy and the mining camps in its vicinity. The report made by Mr. Constantine on his return, established the substantial accuracy of the representations already referred to. The value of the total output of gold for the season of 1894 he estimated at $300,000.

"The facts recited clearly establish—first, that the time had arrived when it became the duty of the Government of Canada to make more efficient provision for the maintenance of order, the enforcement of the laws, and the administration of justice in the Yukon country, especially in that section of it in which placer mining for gold is being prosecuted upon such an extensive scale, situated near to the boundary separating the Northwest Territories from the possessions of the United States in Alaska; and, second, that while such measures as were necessary to that end were called for in the interests of humanity, and particularly for the security and safety of the lives and property of the Canadian subjects of Her Majesty resident in that country who are engaged in legitimate business pursuits, it was evident that the revenue justly due to the Government of Canada, under its customs, excise and land laws, and which would go a long way to pay the expenses of government, was being lost for the want of adequate machinery for its collection.

"Accordingly in June last a detachment* of twenty members of the Mounted Police Force including officers

*The detachment was made up as follows:—Inspector C. Constantine, Officer Commanding Yukon Detachment N. W. M. Police; Inspector, D. A. E. Strickland; Assistant Surgeon, A. E. Wills; 2 Staff Sergeants; 2 Corporals; 13 Constables.

was detailed for service in that portion of the Northwest Territories. The officer in command, in addition to the magisterial and other duties he is required to perform by virtue of his office and under instructions from the Department of Mounted Police, was duly authorized to represent where necessary, and until other arrangements can be made, all the departments of the government having interests in that region. Particularly he is authorized to perform the duties of Dominion lands agent, collector of customs, and collector of inland revenue. At the same time instructions were given Mr. William Ogilvie, the surveyor referred to as having, with Dr. Dawson, been entrusted with the conduct of the first government expedition to the Yukon, to proceed again to that district for the purpose of continuing and extending the work of determining the 141st meridian, of laying out building lots and mining claims, and generally of performing such duties as may be entrusted to him from time to time. Mr. Ogilvie's qualifications as a surveyor, and his previous experience as explorer of this section of the Northwest, peculiarly fit him for the task.

"As it appears quite certain, from the report made by Mr. Ogilvie on his return to Ottawa, in 1889, and from the report of Mr. Constantine, that the operations of the miners are being conducted upon streams which have their sources in the United States Territory of Alaska, and flow into Canada on their way to join the Yukon, and as doubtless some of the placer diggings under development are situated on the United States side of the boundary it is highly desirable, both for the purpose of settling definitely to which country any land occupied for mining or other purposes actually belongs, and in order that the jurisdiction of the courts and officers of the United States and Canada, for both civil and criminal purposes, may be established, that the determination of the 141st meridian west

of Greenwich from the point of its intersection with the Yukon, as marked by Mr. Ogilvie in 1887-88, for a considerable distance south of the river, and possibly also for some distance to the north, should be proceeded with at once. Mr. Ogilvie's instructions require him to go on with the survey with all convenient speed, but in order that this work may be effective for the accomplishment of the object in view the co-operation of the Government of the United States is necessary. Correspondence is in progress through the proper authorities with a view to obtaining this co-operation. It may be mentioned that a United States surveyor has also determined the points at which the Yukon River and Forty Mile Creek are intersected by the 14st meridian."

CHAPTER II.

ROUTES, DISTANCES, AND TRANSPORTATION.

After considerable experience I have decided that the best route for a man to take to the gold regions is from Seattle, Washington, to Juneau, Alaska, and then to Dawson City, by the pass and waterways, and I will therefore describe this route more in detail than any of the others.

I am devoting a special chapter to the outfit for travellers, and will therefore deal in this chapter with the route only.

The traveller having paid his fare to Seattle should on arrival there have not less than $500. This is the minimum sum necessary to pay his fare from Seattle to Juneau, purchase his outfit and supplies for one year and pay his necessary expenses in the gold region for that length of time.

I think it deplorable that so many are starting at this time for the gold-fields. I do not recommend starting before March 15. I will return at that time to my claims on the Klondyke, if it were wise to go sooner, I should certainly go.

The reason March 15 is best is that the season is better then. If a man has only, say, $500 and wants to do his own packing over the Taiya Pass, it gives him time to do it by starting March 15, as he will then be in Juneau April 1st. I fear a great deal of hardship for those who started out so as to reach Juneau for winter travel.

Of course while I say $500 is sufficient to go to Dawson City, a man should take $1,000 or even more if pos-

sible as he will have many opportunities to invest the surplus.

While prices will undoubtedly advance at Dawson City owing to the large influx of people, I do not think the advance will be excessive. It has never been the policy of the two trading companies to take advantage of the miners.

The traveller having arrived in Juneau from Seattle, a journey of 725 miles by water, immediately purchases his complete outfit as described in another chapter. He then loses no time in leaving Juneau for Dyea, taking a small steamboat which runs regularly to this port via the Lynn Canal. Dyea has recently been made a customs port of entry and the head of navigation this side of the Taiya Pass. The distance between Juneau and Dyea is about one hundred miles.

From Dyea, which is the timber-line, he packs his outfit to the foot of the Taiya Pass—the length of which to the summit is about 15 miles. He must now carry his outfit up the Pass, which he generally does in two or more trips according to the weight of his outfit, unless he is able hire Indians or mules; but so far there are very few to Indians to be hired and still fewer mules.

He now starts for Lake Lindeman from the head of the Pass, a distance of eight miles—the distance from Dyea to Lake Lindeman being 31 miles.

At Lake Lindeman he commences to make his boat, for which he has brought the proper supplies in his outfit, with the exception of the timber, which he finds at Lake Lindeman. He spends one week at Lake Lindeman making his boat and getting ready for the long trip down the waterways to Dawson City, the heart of the Klondyke region. The trip through Lake Lindeman is short, the lake being only five miles long. At the foot of the lake he must portage to Lake Bennet, the portage however being very short, less than a mile.

THE ASCENT OF TAIYA PASS

Lake Bennet is 28 miles long, while going through this lake the traveller crosses the boundary between British Columbia and the Northwest Territory.

After going down Lake Bennet the traveller comes to Caribou Crossing—about four miles long, which takes him to Lake Tagish, twenty miles in length. After leaving Tagish he finds himself in Mud or Marsh Lake, 24 miles long, then into the Lynx River, on which he continues for 27 miles till he comes to Miles Canyon, five-eighths of a mile long.

Immediately on leaving Miles Canyon he has three miles of what is called bad river work, which, while not hazardous, is dangerous from the swift current and from being very rocky. Great care has to be taken in going down this part of the river.

He now finds himself in White Horse Canyon the rapids of which are three-eighths of a mile in length and one of the most dangerous places on the trip, a man is here guarded by a sign, "Keep a good lookout."

No stranger or novice should try to run the White Horse Rapids alone in a boat. He should let his boat drop down the river guided by a rope with which he has provided himself in his outfit and which should be 150 feet long. It would be better if the traveller should portage here, the miners having constructed a portage road on the west side and put down roller-ways in some places on which they roll their boats over. They have also made some windlasses with which they haul their boat up the hill till they are at the foot of the canyon. The White Horse Canyon is very rocky and dangerous and the current extremely swift.

After leaving the White Horse Canyon he goes down the river to the head of Lake Labarge, a distance of 14 miles. He can sit down and steer with the current, as he is going down the stream all the way. It is for this reason that in

returning from the diggings he should take another route, of which he will get full particulars before leaving Dawson; therefore I do not take the time to give a full description of the return trip via the Yukon to St. Michael. He now goes through Lake Labarge—for 31 miles—till he strikes the Lewes River, this taking him down to Hootalinqua. He is now in the Lewes River which takes him for 25 miles to Big Salmon River and from Big Salmon River 45 miles to Little Salmon River—the current all this time taking him down at the rate of five miles an hour. Of course in the canyons it is very much swifter.

The Little Salmon River takes him to Five Finger Rapids, a distance of one hundred and twenty miles. In the Five Finger Rapids the voyage should be made on the right side of the river, going with the current. These rapids are considered safe by careful management, but the novice will already have had sufficient experience in guiding his boat before reaching them.

From Five Finger Rapids the traveller goes six miles below, down the Lewes, to the Rink Rapids. On going through the Rink Rapids, he continues on the Lewes River to Fort Selkirk, the trading post of Harper and Ladue, where the Pelly and Lewes, at their junction, form the headwaters of the Yukon. You are now at the head of the Yukon River, and the worst part of your trip is over.

You now commence to go down the Yukon, and after a trip of ninety-eight miles, you are in the White River. You keep on the White River for ten miles, to the Stewart River, and then twenty-five miles to Fort Ogilvie. You are now only forty miles from Dawson City.

Your journey is now almost ended. After a forty-mile trip on the Yukon, you arrive at Dawson City, where the Klondyke empties in the Yukon.

All through this trip you have been going through a mountainous country, the trees there being pine, a small

amount of spruce, cottonwood and birch. You have not seen much game, if any, as it is growing scarce along that line of river, and very hard to find. The traveller had therefore better make preparation to depend on the provisions he has brought with him. If he has stopped to fish, he may have been successful in catching whitefish, grayling and lake trout, along the lakes and rivers.

The total journey from Seattle to Dawson City has taken about two months. In connection with this trip from Juneau to Dawson City, it is perhaps better to give the reader the benefit of the trip of Mr. William Stewart, who writes from Lake Lindeman, May 31st, 1897, as follows :—

"We arrived here at the south end of the lake last night by boat. We have had an awful time of it. The Taiya Pass is not a pass at all, but a climb right over the mountains. We left Juneau on Thursday, the twentieth, on a little boat smaller than the ferry at Ottawa. There were over sixty aboard, all in one room about ten by fourteen. There was baggage piled up in one end so that the floor-space was only about eight by eight. We went aboard about three o'clock in the afternoon and went ashore at Dyea at seven o'clock Friday night. We got the Indians to pack all our stuff up to the summit, but about fifty pounds each ; I had forty-eight pounds and my gun.

"We left Dyea, an Indian village, Sunday, but only got up the river one mile. We towed all the stuff up the river seven miles, and then packed it to Sheep Camp. We reached Sheep Camp about seven o'clock at night, on the Queen's Birthday. A beautiful time we had, I can tell you, climbing hills with fifty pounds on our backs. It would not be so bad if we could strap it on rightly.

"We left Sheep Camp next morning at four o'clock, and reached the summit at half-past seven. It was an awful climb—an angle of about fifty-five degrees. We

could keep our hands touching the trail all the way up. It was blowing and snowing up there. We paid off the Indians, and got some sleighs and sleighed the stuff down the hill. This hill goes down pretty swift, and then drops at an angle of fifty-five degrees for about forty feet, and we had to rough-lock our sleighs and let them go. There was an awful fog, and we could not see where we were going. Some fellows helped us down with the first load, or there would have been nothing left of us. When we let a sleigh go from the top it jumps about fifty feet clear, and comes down in pieces. We loaded up the sleighs with some of our stuff, about two hundred and twenty-five pounds each, and started across the lakes. The trail was awful, and we waded through water and slush two and three feet deep. We got to the mouth of the canyon at about eight o'clock at night, done out. We left there that night, and pushed on again until morning. We got to the bottom of an awful hill, and packed all our stuff from there to the hill above the lake. We had about two and a half miles over hills, in snow and slush. I carried about five hundred pounds over that part of the trail. We had to get dogs to bring the stuff down from the summit to the head of the canyon.

We worked two days bringing the stuff over from the canyon to the hill above the lake. Saturday we worked all day packing down the hill to the lake, and came here on a scow. We were out yesterday morning cutting down trees to build a boat. The timber is small, and I don't think we can get more than four-inch stuff. It rained all afternoon, and we couldn't do anything. There are about fifty boats of all sorts on Lake Bennet, which is about half a mile from here. I have long rubber boots up to the hips, and I did not have them on coming from the summit down, but I have worn them ever since.

We met Barwell and Lewis, of Ottawa, to-day. They

were out looking for knees for their boats. They left Ottawa six weeks ago, and have not got any farther than we have. There was a little saw-mill going here, and they have their lumber sawn. We have it that warm some days here that you would fairly roast, and the next day you would be looking for your overcoat. Everybody here seems to be taking in enough food to do them a couple of years.

We are now in Canadian territory, after we passed the summit. I will have to catch somebody going through to Dyea to give him this letter, but I don't know how long before I can get any one going through. This is the last you will hear from me until I get down to the Klondyke."

Mr. Stewart adds: "I wrote this in the tent at 11 o'clock at night during twilight."

If you take this trip in winter, however, you have to purchase a sled at Juneau, and sled it over the frozen waterways to Dawson City.

For the benefit of my readers in Canada and for parties leaving for the great Northwest Territory for the gold fields, I take pleasure in quoting the following description of a Canadian route :—

"Canadians should awaken to the fact that they have emphatically 'the inside track' to their own gold fields, a route not half the distance, largely covered by railways and steamboats, with supply stations at convenient intervals all the way. By this route the gold-fields can be reached in two months or six weeks, and the cost of travel is ridiculously cheap—nearly anybody can afford to go even now, and by the spring it should be fitted out for the accommodation of any amount of traffic.

The details of the information in the following article are given by Mr. A. H. H. Heming, the artist who ac-

companied Mr. Whitney in his journey towards the Barren Lands, and the data may be accepted as correct, as they were secured from the Hudson Bay officials.

The details of the inland Canadian route, briefly, are as follows : By C. P. R. to Calgary, and thence north by rail to Edmonton ; from there by stage to Athabasca Landing, 40 miles ; then, there is a continuous waterway for canoe travel to Fort Macpherson, at the mouth of the Mackenzie River, from which point the Peel River lies southward to the gold region. The exact figures are as follows :

	MILES.
Edmonton to Athabasca Landing	40
To Fort McMurray	240
Fort Chippewyan	185
Smith Landing	102
Fort Smith	16
Fort Resolution	194
Fort Providence	168
Fort Simpson	161
Fort Wrigley	136
Fort Norman	184
Fort Good Hope	174
Fort Macpherson	282
Total	1882

There are only two portages on this route of any size—that from Edmonton to Athabasca Landing, over which there is a stage and wagon line, and at Smith Landing, sixteen miles, over which the Hudson Bay Company has a tramway. There are four or five other portages of a few hundred yards, but with these exceptions there is a fine "down grade" water route all the way. It is the old Hudson Bay trunk line to the north that has been in use for nearly

a century. Wherever there is a lake or a long stretch of deep water river navigation the company has small freight steamers which ply back and forward during the summer between the portage points or shallows. With comparatively little expenditure the company or the Government can improve the facilities along the line so that any amount of freight or any number of passengers can be taken into the gold region at less than half the time and cost that it takes Americans to reach it from Port St. Michael, at the mouth of the Yukon to the Klondyke, exclusive of the steamer trip of 2500 miles from Seattle to Port St. Michael.

Canadians can leave here on a Monday at 11.15 A.M., and reach Edmonton on Friday at 7 P.M. From that point, a party of three men with a canoe, should reach Fort Macpherson easily in from 50 to 60 days, provided they are able-bodied young fellows with experience in that sort of travel. They will need to take canoes from here, unless they propose to hire Indians with large birch bark canoes to carry them. Birch bark canoes can be secured of any size up to the big ones manned by ten Indians that carry three tons. But birch barks are not reliable unless Indians are taken along to doctor them, and keep them from getting water-logged. The Hudson Bay Company will also contract to take freight northward on their steamers until the close of navigation. Travellers to the gold mines leaving now would probably reach Fort Macpherson before navigation closed.

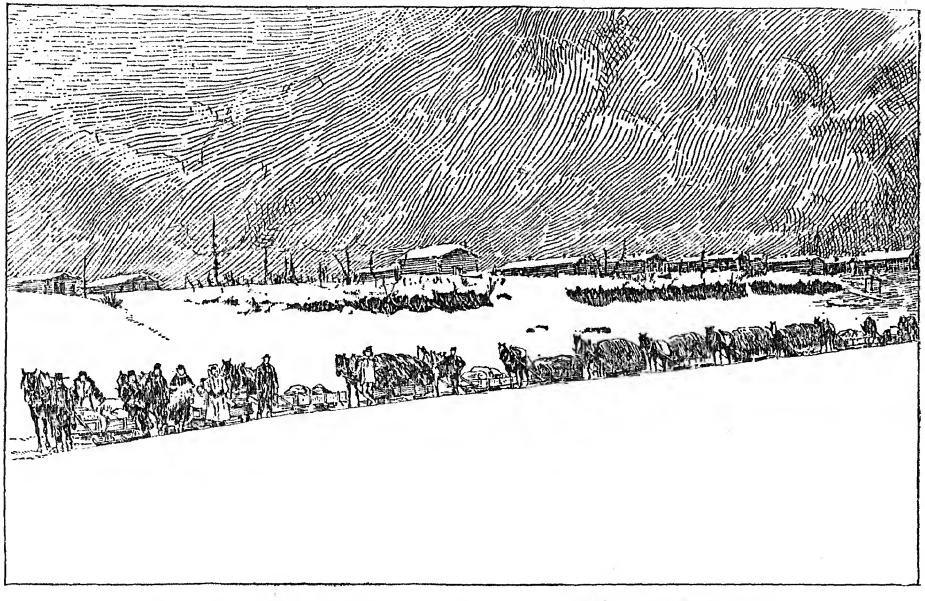
The letter from Rev. Mr. Stringer, the missionary, published in the Spectator on July 2, shows that the ice had only commenced to run in the Peel River, which is the water route south-east from Fort Macpherson into the gold region, on September 30 last year.

Any Canadians who are anxious to get into the Klondyke ahead of the Americans can leave between now and

August 1, reach Fort Macpherson, and if winter comes on they can exchange their canoes for dog trains, and reach the Klondyke without half the difficulty that would be experienced on the Alaska route. The great advantage of the inland route is that it is an organized line of communication. Travellers need not carry any more food than will take them from one Hudson Bay post to the next, and then there is abundance of fish and wild fowl en route. They can also be in touch with such civilization as prevails up there, can always get assistance at the posts, and will have some place to stay should they fall sick or meet with an accident. If they are lucky enough to make their pile in the Klondyke, they can come back by the dog sled route during the winter. (There is one winter mail to Fort Macpherson in winter.) Dogs for teams can be purchased at nearly any of the line of Hudson Bay posts that form a chain of road-houses on the trip.

Parties travelling alone will not need to employ guides until they get near Fort Macpherson, and from there on to the Klondyke, as the rest of the route from Edmonton is so well defined, having been travelled for years, that no guides are required.

You don't need a couple of thousand dollars to start for Klondyke to-morrow by the Edmonton route. All you need is a good constitution, some experience in boating and camping, and about $150. Suppose a party of three decide to start. First they will need to purchase a canoe, about $35 or less; first-class ticket from Hamilton to Edmonton, $71.40; second class, ditto, $40.90; cost of food at Edmonton for three men for two months (should consist of pork, flour, tea and baking-powder), $35; freight on canoe to Edmonton, $23. Total for three men from Hamilton to Fort Macpherson, provided they travel second-class on the C. P. R. will be $218.70. These figures are furnished by Mr. Heming, who has been over the route



SLED TRAIN LEAVING CIRCLE CITY, ALASKA, FOR DAWSON CITY, 300 MILES AWAY

400 miles north of Edmonton, and got the rest of his data from the Hudson Bay officials.

If three men chip in $150 each they would have a margin of over $200 for purchasing their tools and for transport from Fort Macpherson to the Klondyke. This is how it may be done on the cheap, though Mr. Heming considers it ample for any party starting this summer. Prices will likely rise on the route when the rush begins. If the Hudson Bay people are alive to their interests they will forward a large amount of supplies for Fort Macpherson immediately and make it the base of supplies for the Klondyke during the coming winter.

Parties should consist of three men each, as that is the crew of a canoe. It will take 600 pounds of food to carry three men over the route. Passengers on the C. P. R. are entitled to carry 600 pounds of baggage. The paddling is all down stream, except when they turn south up Peel River, and sails should be taken, as there is often a favorable wind for days.

There are large scows on the line, manned by ten men each and known as 'sturgeon heads.' They are like canal boats, but are punted along and are used by the Hudson Bay people for taking forward supplies to the forts.

The return trip to the United States is usually made by the Yukon steamers from Dawson City direct to St. Michael via the Yukon and Anvik River, thence by ocean steamer from St. Michael to San Francisco."

The following letter is interesting to the prospector as showing the difficulties to overcome up the Taiya Pass to Lake Lindeman.

Winnipeg, July 27, 1897.

A letter has been received from George McLeod, one of the members of the Winnipeg party of gold hunters that

left here recently for the Yukon. He wrote from Lake Lindeman under date of July 4, and states that the party expected to leave on the journey from the river a week later. They had a fine boat, with a freight capacity of two tons about completed. The real work of the expedition started when the small steamer which conveyed the party from Juneau arrived at Dyea. The men had to transfer their goods to a lighter one mile from shore, each man looking after his own packages. After getting everything ashore the party was organized for ascent of the mountain pass, which at the hardest point is 3,000 feet above sea level. McLeod and his chum, to save time and money too, engaged 35 Indians to pack their supplies over the mountains, but they had to carry their own bedding and grub to keep them on the road. It is fifteen miles to the summit of the pass and the party made twelve miles the first day, going into camp at night tired from climbing over rocks, stumps, logs and hills, working through rivers and creeks and pushing their way through brush. At the end of twelve miles they thought they had gone fifty. On the second day out they began to scale the summit of the mountain. Hill after hill confronted them, each one being steeper than the last. There was snow on the top of the mountain, and rain was falling, and this added greatly to the difficulties of the ascent. In many places the men had to crawl on their hands and knees, so precipitous was the mountain side. Time after time the men would slip back several inches, but they recovered themselves and went at it again.

Finally, the summit was gained, McLeod being the first of the party to reach the top. After resting and changing their clothes the descent was commenced. McLeod and his chums purchased sleighs, on which they loaded their goods and hauled for five miles. This was extremely laborious work, and the men were so used up working in

the scorching sun that they were compelled to work at nights and sleep during the day. Two days after the descent began the sleighs were abandoned, and the men packed the goods for three miles and a half. They were fortunate in securing the services of a man who had two horses to convey the goods to Lake Lindeman.

McLeod says the worry in getting over the pass is terrible, and he has no desire to repeat the experience. He advises all who go in to have their goods packed all the way from Dyea to Lake Lindeman. It costs 17 or 18 cents per pound for packing.

McLeod expected that Klondyke would not be reached before July 25.

I think it specially valuable for the reader to give him the approximate distances to Fort Cudahy, which is below Dawson City via the various routes.

This table of distances has been prepared by Mr. James Ogilvie, and I also give a number of his notes which will be of great value to the traveller when making the trip from Juneau to Dawson City.

APPROXIMATE DISTANCES TO FORT CUDAHY.

VIA ST. MICHAEL.

	Miles.
San Francisco to Dutch Harbor	2,400
Seattle or Victoria to Dutch Harbor	2,000
Dutch Harbor to St. Michael	750
St. Michael to Cudahy	1,600

VIA TAIYA PASS.

Victoria to Taiya	1,000
Taiya to Cudahy	650

VIA STIKINE RIVER.

Victoria to Wrangell	750
Wrangell to Telegraph Creek	150
Telegraph Creek to Teslin Lake	150

DISTANCES FROM HEAD OF TAIYA INLET.

	Miles.
Head of canoe navigation, Taiya River	5·90
Forks of Taiya River	8·38
Summit of Taiya Pass	14·76
Landing at Lake Lindeman	23·06
Foot of Lake Lindeman	27·49
Head of Lake Bennet	28·09
Boundary line B. C. and N. W. T. (Lat 60°)	38·09
Foot of Lake Bennet	53·85
Foot of Caribou Crossing (Lake Nares)	56·44
Foot of Tagish Lake	73·25
Head of Marsh Lake	78·15
Foot of Marsh Lake	97·21
Head of Miles Cañon	122·94
Foot of Miles Cañon	123·56
Head of White Horse Rapids	124·95
Foot of White Horse Rapids	125·33
Tahkeena River	139·92
Head of Lake Labarge	153·07
Foot of Lake Labarge	184·22
Teslintoo River	215·88
Big Salmon River	249·33
Little Salmon River	285·54
Five Finger Rapids	344·83
Pelly River	403.29
White River	499·11
Stewart River	508·91
Sixty-Mile Creek	530·41
Dawson City—The Principal Mining Town	575·70
Fort Reliance	582·20
Forty-Mile River	627·08
Boundary Line	667·43

"Another route is now being explored between Telegraph Creek and Teslin Lake and will soon be opened. Telegraph Creek is the head of steamer navigation on the Stikine River and is about 150 miles from Teslin Lake. The Yukon is navigable for steamers from its mouth to Teslin Lake, a distance of 2,300 miles. A road is being located

by the Dominion Government. A grant of $2,000 has been made by the province of British Columbia for opening it.

"J. Dalton, a trader, has used a route overland from Chilkat Inlet to Fort Selkirk. Going up the Chilkat and Klaheela Rivers, he crosses the divide to the Tahkeena River and continues northward over a fairly open country practicable for horses. The distance from the sea to Fort Selkirk is 350 miles.

"Last summer a Juneau butcher sent 40 head of cattle to Cudahy. G. Bounds, the man in charge, crossed the divide over the Chilkat Pass, followed the shore of Lake Arkell and, keeping to the east of Dalton's trail, reached the Yukon just below the Rink Rapids. Here the cattle were slaughtered and the meat floated down on a raft to Cudahy, where it retailed at $1 a pound.

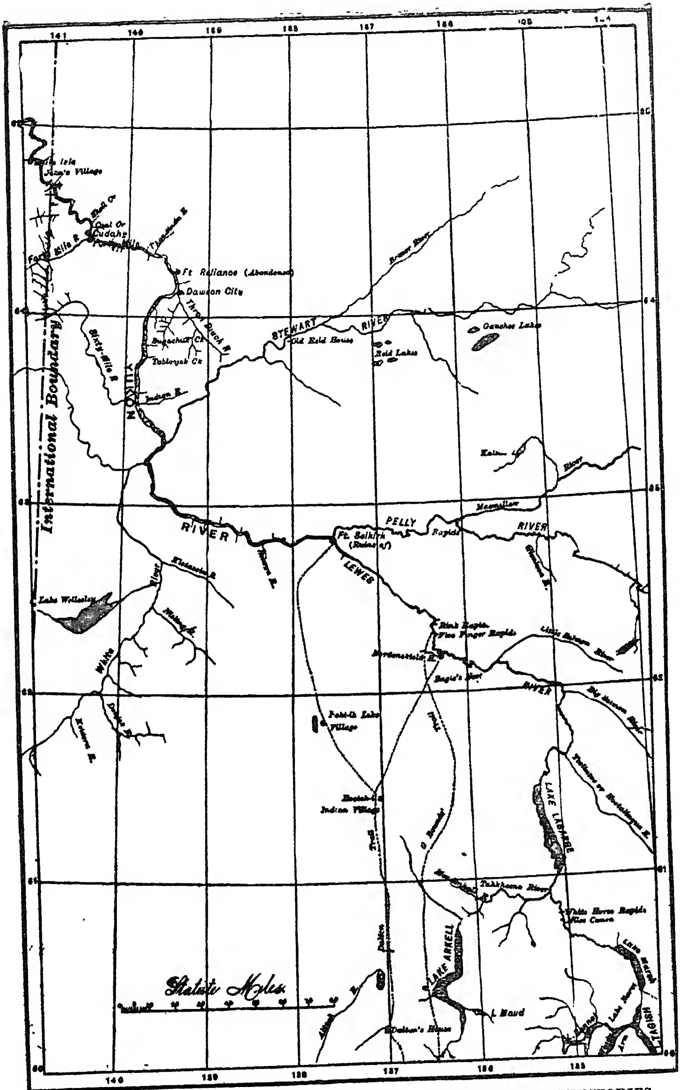
"It is proposed to establish a winter road somewhere across the country travelled over by Dalton and Bounds. The Yukon cannot be followed, the ice being too much broken, so that any winter road will have to be overland. A thorough exploration is now being made of all the passes at the head of Lynn Canal and of the upper waters of the Yukon. In a few months it is expected that the best routes for reaching the district from Lynn Canal will be definitely known.

"It is said by those familiar with the locality that the storms which rage in the upper altitudes of the coast range during the greater part of the time, from October to March, are terrific. A man caught in one of them runs the risk of losing his life, unless he can reach shelter in a short time. During the summer there is nearly always a wind blowing from the sea up Chatham Strait and Lynn Canal, which lie in almost a straight line with each other, and at the head of Lynn Canal are Chilkat and Chilkoot Inlets. The distance from the coast down these channels to the

open sea is about 380 miles. The mountains on each side of the water confine the currents of air, and deflect inclined currents in the direction of the axis of the channel, so that there is nearly always a strong wind blowing up the channel. Coming from the sea, this wind is heavily charged with moisture, which is precipitated when the air currents strike the mountains, and the fall of rain and snow is consequently very heavy.

"In Chilkat Inlet there is not much shelter from the south wind, which renders it unsafe for ships calling there. Capt. Hunter told me he would rather visit any other part of the coast than Chilkat.

"To carry the survey from the island across to Chilkoot Inlet I had to get up on the mountains north of Haines mission, and from there could see both inlets. Owing to the bad weather I could get no observation for azimuth, and had to produce the survey from Pyramid Island to Taiya Inlet by reading the angles of deflection between the courses. At Taiya Inlet I got my first observation, and deduced the azimuths of my courses up to that point. Taiya Inlet has evidently been the valley of a glacier; its sides are steep and smooth from glacial action; and this, with the wind almost constantly blowing landward, renders getting upon the shore difficult. Some long sights were therefore necessary. The survey was made up to the head of the Inlet on the 2d of June. Preparations were then commenced for taking the supplies and instruments over the coast range of mountains to the head of Lake Lindeman on the Lewes River. Commander Newell kindly aided me in making arrangements with the Indians, and did all he could to induce them to be reasonable in their demands. This, however, neither he nor any one else could accomplish. They refused to carry to the lake for less than $20 per hundred pounds, and as they had learned that the expedition was an English one, the second chief



THE BOUNDARY LINE BETWEEN ALASKA AND NORTHWEST TERRITORIES
SHOWING OVERLAND TRIP TO DAWSON CITY FROM LAKE BENNET

of the Chilkoot Indians recalled some memories of an old quarrel which the tribe had with the English many years ago, in which an uncle of his was killed, and he thought we should pay for the loss of his uncle by being charged an exorbitant price for our packing, of which he had the sole control. Commander Newell told him I had a permit from the Great Father at Washington to pass through his country safely, that he would see that I did so, and if the Indians interfered with me they would be punished for doing so. After much talk they consented to carry our stuff to the summit of the mountain for $10 per hundred pounds. This is about two-thirds of the whole distance, includes all the climbing and all the woods, and is by far the most difficult part of the way.

"On the 6th of June 120 Indians, men, women and children, started for the summit. I sent two of my party with them to see the goods delivered at the place agreed upon. Each carrier when given a pack also got a ticket, on which was inscribed the contents of the pack, its weight, and the amount the individual was to get for carrying it. They were made to understand that they had to produce these tickets on delivering their packs, but were not told for what reason. As each pack was delivered one of my men receipted the ticket and returned it. The Indians did not seem to understand the import of this; a few of them pretended to have lost their tickets; and as they could not get paid without them, my assistant, who had duplicates of every ticket, furnished them with receipted copies, after examining their packs.

"While they were packing to the summit I was producing the survey, and I met them on their return at the foot of the cañon, about eight miles from the coast, where I paid them. They came to the camp in the early morning before I was up, and for about two hours there was quite a hubbub. When paying them I tried to get their names, but

very few of them would give any Indian name, nearly all, after a little reflection, giving some common English name. My list contained little else than Jack, Tom, Joe, Charlie, &c. some of which were duplicated three and four times. I then found why some of them had pretended to lose their tickets at the summit. Three or four who had thus acted presented themselves twice for payment, producing first the receipted ticket, afterwards the one they claimed to have lost, demanding pay for both. They were much taken aback when they found that their duplicity had been discovered.

"These Indians are perfectly heartless. They will not render even the smallest aid to each other without payment; and if not to each other, much less to a white man. I got one of them, whom I had previously assisted with his pack, to take me and two of my party over a small creek in his canoe. After putting us across he asked for money, and I gave him half a dollar. Another man stepped up and demanded pay, stating that the canoe was his. To see what the result would be, I gave to him the same amount as to the first. Immediately there were three or four more claimants for the canoe. I dismissed them with a blessing, and made up my mind that I would wade the next creek.

"While paying them I was a little apprehensive of trouble, for they insisted on crowding into my tent, and for myself and the four men who were with me to have attempted to eject them would have been to invite trouble. I am strongly of the opinion that these Indians would have been much more difficult to deal with if they had not known that Commander Newell remained in the inlet to see that I got through without accident.

"While making the survey from the head of tide water I took the azimuths and altitudes of several of the highest peaks around the head of the inlet, in order to locate

them, and obtain an idea of the general height of the peaks in the coast range. As it does not appear to have been done before, I have taken the opportunity of naming all the peaks, the positions of which I fixed in the above way. The names and altitudes appear on my map.

"While going up from the head of canoe navigation on the Taiya River I took the angles of elevation of each station from the preceding one. I would have done this from tide water up, but found many of the courses so short and with so little increase in height that with the instrument I had it was inappreciable. From these angles I have computed the height of the summit of the Taiya Pass,* above the head of canoe navigation, as it appeared to me in June, 1887, and find it to be 3,378 feet. What depth of snow there was I cannot say. The head of canoe navigation I estimate at about 120 feet above tide water. Dr. Dawson gives it as 124 feet.

"I determined the descent from the summit to Lake Lindeman by carrying the aneroid from the lake to the summit and back again, the interval of time from start to return being about eight hours. Taking the mean of the readings at the lake, start and return, and the single reading at the summit, the height of the summit above the lake was found to be 1,237 feet. While making the survey from the summit down to the lake I took the angles of depression of each station from the preceding one, and from these angles I deduced the difference of height, which I found to be 1,354 feet, or 117 feet more than that found

* The distance from the head of Taiya Inlet to the summit of the pass is 15 miles, and the whole length of the pass to Lake Lindeman is 23 miles. Messrs. Healy and Wilson, dealers in general merchandise and miners' supplies at Taiya, have a train of pack horses carrying freight from the head of Lynn Canal to the summit. They hope to be able to take freight through to Lake Lindeman with their horses during the present season.

by the aneroid. This is quite a large difference; but when we consider the altitude of the place, the sudden changes of temperature, and the atmospheric conditions, it is not more than one might expect.

"While at Juneau I heard reports of a low pass from the head of Chilkoot Inlet to the head waters of Lewes River. During the time I was at the head of Taiya Inlet I made inquiries regarding it, and found that there was such a pass, but could learn nothing definite about it from either whites or Indians. As Capt. Moore, who accompanied me, was very anxious to go through it, and as the reports of the Taiya Pass indicated that no wagon road or railroad could ever be built through it, while the new pass appeared, from what little knowledge I could get of it, to be much lower and possibly feasible for a wagon road, I determined to send the captain by that way, if I could get an Indian to accompany him. This, I found, would be difficult to do. None of the Chilkoots appeared to know anything of the pass, and I concluded that they wished to keep its existence and condition a secret. The Tagish, or Stick Indians, as the interior Indians are locally called, are afraid to do anything in opposition to the wishes of the Chilkoots; so it was difficult to get any of them to join Capt. Moore; but after much talk and encouragement from the whites around, one of them named "Jim" was induced to go. He had been through this pass before, and proved reliable and useful. The information obtained from Capt. Moore's exploration I have incorporated in my plan of the survey from Taiya Inlet, but it is not as complete as I would have liked. I have named this pass "White Pass," in honor of the late Hon. Thos. White, Minister of the Interior, under whose authority the expedition was organized. Commencing at Taiya Inlet, about two miles south of its north end, it follows up the valley of the Shkagway River to its source, and thence down the valley of another

river which Capt. Moore reported to empty into the Takone or Windy Arm of Bove Lake (Schwatka). Dr. Dawson says this stream empties into Taku Arm, and in that event Capt. Moore is mistaken. Capt. Moore did not go all the way through to the lake, but assumed from reports he heard from the miners and others that the stream flowed into Windy Arm, and this also was the idea of the Indian "Jim" from what I could gather from his remarks in broken English and Chinook. Capt. Moore estimates the distance from tide water to the summit at about 18 miles, and from the summit to the lake at about 22 to 23 miles. He reports the pass as thickly timbered all the way through.

"The timber line on the south side of the Taiya Pass, as determined by barometer reading, is about 2,300 feet above the sea, while on the north side it is about 1,000 feet below the summit. This large difference is due, I think, to the different conditions in the two places. On the south side the valley is narrow and deep, and the sun cannot produce its full effect. The snow also is much deeper there, owing to the quantity which drifts in from the surrounding mountains. On the north side the surface is sloping, and more exposed to the sun's rays. On the south side the timber is of the class peculiar to the coast, and on the north that peculiar to the interior. The latter would grow at a greater altitude than the coast timber. It is possible that the summit of White Pass is not higher than the timber line on the north of the Taiya Pass, or about 2,500 feet above tide water, and it is possibly even lower than this, as the timber in a valley such as the White Pass would hardly live at the same altitude as on the open slope on the north side.

"Capt. Moore has had considerable experience in building roads in mountainous countries. He considers that this would be an easy route for a wagon road compared with some roads he has seen in British Columbia. Assuming

his distances to be correct, and the height of the pass to be probably about correctly indicated, the grades would not be very steep, and a railroad could easily be carried through if necessary.

"After completing the survey down to the lake, I set about getting my baggage down too. Of all the Indians who came to the summit with packs, only four or five could be induced to remain and pack down to the lake, although I was paying them at the rate of $4 per hundred pounds. After one trip down only two men remained, and they only in hopes of stealing something. One of them appropriated a pair of boots, and was much surprised to find that he had to pay for them on being settled with. I could not blame them much for not caring to work, as the weather was very disagreeable—it rained or snowed almost continuously. After the Indians left I tried to get down the stuff with the aid of my own men, but it was slavish and unhealthy labor, and after the first trip one of them was laid up with what appeared to be inflammatory rheumatism. The first time the party crossed, the sun was shining brightly, and this brought on snow blindness, the pain of which only those who have suffered from this complaint can realize. I had two sleds with me which were made in Juneau specially for the work of getting over the mountains and down the lakes on the ice. With these I succeeded in bringing about a ton and a-half to the lakes, but found that the time it would take to get all down in this way would seriously interfere with the programme arranged with Dr. Dawson, to say nothing of the suffering of the men and myself, and the liability to sickness which protracted physical exertion under such uncomfortable conditions and continued suffering from snow blindness expose us to. I had with me a white man who lived at the head of the inlet with a Tagish Indian woman. This man had a good deal of influence with the Tagish tribe, of

whom the greater number were then in the neighborhood where he resided, trying to get some odd jobs of work, and I sent him to the head of the inlet to try and induce the Tagish Indians to undertake the transportation, offering them $5 per hundred pounds. In the meantime Capt. Moore and the Indian "Jim" had rejoined me. I had their assistance for a day or two, and "Jim's" presence aided indirectly in inducing the Indians to come to my relief.

"The Tagish are little more than slaves to the more powerful coast tribes, and are in constant dread of offending them in any way. One of the privileges which the coast tribes claim is the exclusive right to all work on the coast or in its vicinity, and the Tagish are afraid to dispute this claim. When my white man asked the Tagish to come over and pack they objected on the grounds mentioned. After considerable ridicule of their cowardice, and explanation of the fact that they had the exclusive right to all work in their own country, the country on the side of the north side of the coast range being admitted by the coast Indians to belong to the Tagish tribe just as the coast tribes had the privilege of doing all the work on the coast side of the mountains, and that one of their number was already working with me unmolested, and likely to continue so, nine of them came over, and in fear and trembling began to pack down to the lake. After they were at work for a few days some of the Chilkoots came out and also started to work. Soon I had quite a number at work and was getting my stuff down quite fast. But this good fortune was not to continue. Owing to the prevailing wet, cold weather on the mountains, and the difficulty of getting through the soft wet snow, the Indians soon began to quit work for a day or two at a time, and to gamble with one another for the wages already earned. Many of them wanted to be paid in full, but this I posi-

tively refused, knowing that to do so was to have them all apply for their earnings and leave me until necessity compelled them to go to work again. I once for all made them distinctly understand that I would not pay any of them until the whole of the stuff was down. As many of them had already earned from twelve to fifteen dollars each, to lose which was a serious matter to them, they reluctantly resumed work and kept at it until all was delivered. This done, I paid them off, and set about getting my outfit across the lake, which I did with my own party and the two Peterborough canoes which I had with me.

"These two canoes travelled about 3,000 miles by rail and about 1,000 miles by steamship before being brought into service. They did considerable work on Chilkoot and Tagish Inlets, and were then packed over to the head of Lewes River (Lake Lindeman), from where they were used in making the survey of Lewes and Yukon Rivers. In this work they made about 650 landings. They were then transported on sleighs from the boundary on the Yukon to navigable water on the Porcupine.

"In the spring of 1888 they descended the latter river, heavily loaded, and through much rough water, to the mouth of Bell's River, and up it to McDougall's Pass. They were then carried over the pass to Poplar River and were used in going down the latter to Peel River, and thence up Mackenzie River 1,400 miles; or, exclusive of railway and ship carriage, they were carried about 170 miles and did about 2,500 miles of work for the expedition, making in all about 1,700 landings in no easy manner and going through some very bad water. I left them at Fort Chipewyan in fairly good condition, and, with a little painting, they would go through the same ordeal again.

After getting all my outfit over to the foot of Lake Lindeman I set some of the party to pack it to the head of Lake Bennet.

LAKE LINDEMAN LOOKING TOWARD TAIYA PASS

"I employed the rest of the party in looking for timber to build a boat to carry my outfit of provisions and implements down the river to the vicinity of the international boundary, a distance of about 700 miles. It took several days to find a tree large enough to make plank for the boat I wanted, as the timber around the upper end of the lake is small and scrubby. My boat was finished on the evening of the 11th of July, and on the 12th I started a portion of the party to load it and go ahead with it and the outfit to the canon. They had instructions to examine the cañon and, if necessary, to carry a part of the outfit past it—in any case, enough to support the party back to the coast should accident necessitate such procedure. With the rest of the party I started to carry on the survey, which may now be said to have fairly started ahead on the lakes. This proved tedious work, on account of the stormy weather.

"In the summer months there is nearly always a wind blowing in from the coast; it blows down the lakes and produces quite a heavy swell. This would not prevent the canoes going with the decks on, but, as we had to land every mile or so, the rollers breaking on the generally flat beach proved very troublesome. On this account I found I could not average more than ten miles per day on the lakes, little more than half of what could be done on the river.

"The survey was completed to the canon on the 20th of July. There I found the party with the large boat had arrived on the 18th, having carried a part of the supplies past the canon, and were awaiting my arrival to run through it with the rest in the boat. Before doing so, however, I made an examination of the cañon. The rapids below it, particularly the last rapid of the series (called the White Horse by the miners), I found would not be safe to run. I sent two men through the cañon in one of the canoes to

await the arrival of the boat, and to be ready in case of an accident to pick us up. Every man in the party was supplied with a life-preserver, so that should a casualty occur we would all have floated. Those in the canoe got through all right; but they would not have liked to repeat the trip. They said the canoe jumped about a great deal more than they thought it would, and I had the same experience when going through in the boat.

"The passage through is made in about three minutes, or at the rate of about 12½ miles an hour. If the boat is kept clear of the sides there is not much danger in high water; but in low water there is a rock in the middle of the channel, near the upper end of the cañon, that renders the passage more difficult. I did not see this rock myself, but got my information from some miners I met in the interior, who described it as being about 150 yards down from the head and a little to the west of the middle of the channel. In low water it barely projects above the surface. When I passed through there was no indication of it, either from the bank above or from the boat.

"The distance from the head to the foot of the cañon is five-eighths of a mile. There is a basin about midway in it about 150 yards in diameter. This basin is circular in form, with steep sloping sides about 100 feet high. The lower part of the cañon is much rougher to run through than the upper part, the fall being apparently much greater. The sides are generally perpendicular, about 80 to 100 feet high, and consist of basalt, in some places showing hexagonal columns.

"The White Horse Rapids are about three-eighths of a mile long. They are the most dangerous rapids on the river, and are never run through in boats except by accident. They are confined by low basaltic banks, which, at the foot, suddenly close in and make the channel about 30 yards wide. It is here the danger lies, as there is a

sudden drop and the water rushes through at a tremendous rate, leaping and seething like a cataract. The miners have constructed a portage road on the west side, and put down rollways in some places on which to shove their boats over. They have also made some windlasses with which to haul their boats up hill, notably one at the foot of the cañon. This roadway and windlasses must have cost them many hours of hard labor. Should it ever be necessary, a tramway could be built past the cañon on the east side with no great difficulty. With the exception of the Five Finger Rapids these appear to be the only serious rapids on the whole length of the river.

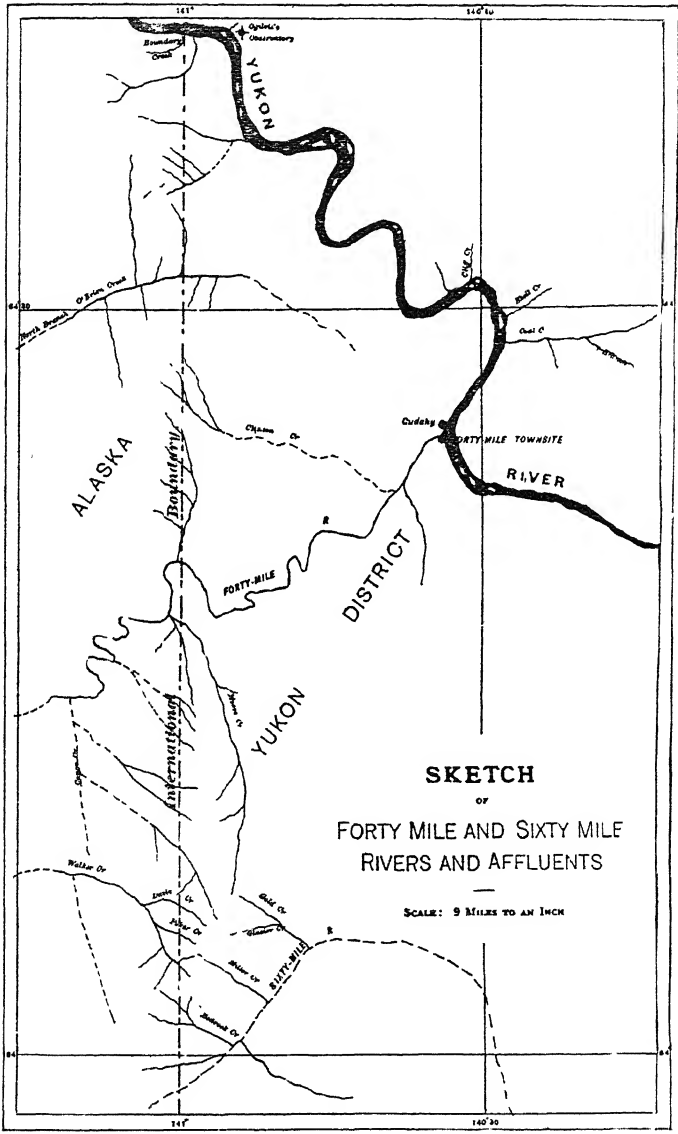
"Five Finger Rapids are formed by several islands standing in the channel and backing up the water so much as to raise it about a foot, causing a swell below for a few yards. The islands are composed of conglomerate rock, similar to the cliffs on each side of the river, whence one would infer that there has been a fall here in past ages. For about two miles below the rapids there is a pretty swift current, but not enough to prevent the ascent of a steamboat of moderate power, and the rapids themselves I do not think would present any serious obstacle to the ascent of a good boat. In very high water warping might be required. Six miles below these rapids are what are known as 'Rink Rapids.' This is simply a barrier of rocks, which extends from the westerly side of the river about half way across. Over this barrier there is a ripple which would offer no great obstacle to the descent of a good canoe. On the easterly sides there is no ripple, and the current is smooth and the water apparently deep. I tried with a 6 foot paddle, but could not reach the bottom.

"On the 11th of August I met a party of miners coming out who had passed Stewart River a few days before. They saw no sign of Dr. Dawson having been there. This was welcome news for me, as I expected he would have

reached that point long before I arrived, on account of the many delays I had met with on the coast range. These miners also gave me the pleasant news that the story told at the coast about the fight with the Indians at Stewart River was false, and stated substantially what I have already repeated concerning it. The same evening I met more miners on their way out, and the next day met three boats, each containing four men. In the crew of one of them was a son of Capt. Moore, from whom the captain got such information as induced him to turn back and accompany them out.

"Next day, the 13th, I got to the mouth of the Pelly, and found that Dr. Dawson had arrived there on the 11th. The doctor also had experienced many delays, and had heard the same story of the Indian uprising in the interior. I was pleased to find that he was in no immediate want of provisions, the fear of which had caused me a great deal of uneasiness on the way down the river, as it was arranged between us in Victoria that I was to take with me provisions for his party to do them until their return to the coast. The doctor was so much behind the time arranged to meet me that he determined to start for the coast at once. I therefore set about making a short report and plan of my survey to this point; and, as I was not likely to get another opportunity of writing at such length for a year, I applied myself to a correspondence designed to satisfy my friends and acquaintances for the ensuing twelve months. This necessitated three days' hard work.

"On the morning of the 17th the doctor left for the outside world, leaving me with a feeling of loneliness that only those who have experienced it can realize. I remained at the mouth of the Pelly during the next day taking magnetic and astronomical observations, and making some measurements of the river. On the 19th I resumed the survey and reached White River on the 25th. Here I spent



SKETCH

OF

FORTY MILE AND SIXTY MILE RIVERS AND AFFLUENTS

SCALE: 9 MILES TO AN INCH

most of a day trying to ascend this river, but found it impracticable, on account of the swift current and shallow and very muddy water. The water is so muddy that it is impossible to see through one-eighth of an inch of it. The current is very strong, probably eight miles or more per hour, and the numerous bars in the bed are constantly changing place. After trying for several hours, the base men succeeded in doing about half a mile only, and I came to the conclusion that it was useless to try to get up this stream to the boundary with canoes. Had it proved feasible I had intended making a survey of this stream to the boundary, to discover more especially the facilities it offered for the transport of supplies in the event of a survey of the International Boundary being undertaken.

"I reached Stewart River on the 26th. Here I remained a day taking magnetic observations, and getting information from a miner, named McDonald, about the country up that river. McDonald had spent the summer up the river prospecting and exploring. His information will be given in detail further on.

"Fort Reliance was reached on the 1st of September, and Forty Mile River (Cone-Hill River of Schwatka) on the 7th. In the interval between Fort Reliance and Forty Mile River there were several days lost by rain.

"At Forty Mile River I made some arrangements with the traders there (Messrs. Harper & McQuestion) about supplies during the winter, and about getting Indians to assist me in crossing from the Yukon to the head of the Porcupine, or perhaps on to the Peel River. I then made a survey of the Forty Mile River up to the canon. I found the canon would be difficult of ascent, and dangerous to descend, and therefore, concluded to defer further operations until the winter, and until after I had determined the longitude of my winter post near the boundary, when I would be in a much better position to locate the

intersection of the International Boundary with this river, a point important to determine on account of the number and richness of the mining claims on the river.

"I left Forty Mile River for the boundary line between Alaska and the Northwest Territories on the 12th September, and finished the survey to that point on the 14th. I then spent two days in examining the valley of the river in the vicinity of the boundary to get the most extensive view of the horizon possible, and to find a tree large enough to serve for a transit stand.

"Before leaving Toronto I got Mr. Foster to make large brass plates with V's on them, which could be screwed firmly to a stump, and thus be made to serve as a transit stand. I required a stump at least 22 inches in diameter to make a base large enough for the plates when properly placed for the transit. In a search which covered about four miles of the river bank, on both sides, I found only one tree as large as 18 inches. I mention this fact to give an idea of the size of the trees along the river in this vicinity. I had this stump enlarged by firmly fixing pieces on the sides so as to bring it up to the requisite size. This done, I built around the stump a small transit house of the ordinary form and then mounted and adjusted my transit. Meanwhile, most of the party were busy preparing our winter quarters and building a magnetic observatory. As I had been led to expect extremely low temperatures during the winter, I adopted precautionary measures, so as to be as comfortable as circumstances would permit during our stay there.

DESCRIPTION OF THE YUKON, ITS AFFLUENT STREAMS, AND THE ADJACENT COUNTRY.

"I will now give, from my own observation and from information received, a more detailed description of the

Lewes River, its affluent streams, and the resources of the adjacent country.

"For the purpose of navigation a description of the Lewes River begins at the head of Lake Bennet. Above that point, and between it and Lake Lindeman, there is only about three-quarters of a mile of river, which is not more than fifty or sixty yards wide, and two or three feet deep, and is so swift and rough that navigation is out of the question.

"Lake Lindeman is about five miles long and half a mile wide. It is deep enough for all ordinary purposes. Lake Bennet* is twenty-six and a quarter miles long, for the upper fourteen of which it is about half a mile wide. About midway in its length an arm comes in from the west, which Schwatka appears to have mistaken for a river, and named Wheaton River. This arm is wider than the other arm down to that point, and is reported by Indians to be longer and heading in a glacier which lies in the pass at the head of Chilkoot Inlet. This arm is, as far as seen, surrounded by high mountains, apparently much higher than those on the arm we travelled down. Below the junction of the two arms the lake is about one and a half miles wide, with deep water. Above the forks the water of the east branch is muddy. This is caused by the streams from the numerous glaciers on the head of the tributaries of Lake Lindeman.

"A stream which flows into Lake Bennet at the south-west corner is also very dirty, and has shoaled quite a large portion of the lake at its mouth. The beach at the lower end of this lake is comparatively flat and the water shoal.

* A small saw-mill has been erected at the head of Lake Bennet; lumber for boat building sells at $100 per M. Boats 25 feet long and 5 feet beam are $60 each. Last year the ice broke up in the lake on the 12th June, but this season is earlier and the boats are expected to go down the lake about the 1st of June.

A deep, wide valley extends northwards from the north end of the lake, apparently reaching to the canon, or a short distance above it. This may have been originally a course for the waters of the river. The bottom of the valley is wide and sandy, and covered with scrubby timber, principally poplar and pitch-pine. The waters of the lake empty at the extreme north-east angle through a channel not more than one hundred yards wide, which soon expands into what Schwatka called Lake Nares.* Through this narrow channel there is quite a current, and more than 7 feet of water, as a 6 foot paddle and a foot of arm added to its length did not reach the bottom.

"The hills at the upper end of Lake Lindeman rise abruptly from the water's edge. At the lower end they are neither so steep nor so high.

"Lake Nares is only two and a half miles long, and its greatest width is about a mile; it is not deep, but is navigable for boats drawing 5 or 6 feet of water; it is separated from Lake Bennet by a shallow sandy point of not more than 200 yards in length.

"No streams of any consequence empty into either of these lakes. A small river flows into Lake Bennet on the west side, a short distance north of the fork, and another at the extreme north-west angle, but neither of them is of any consequence in a navigable sense.

"Lake Nares flows through a narrow curved channel into Bove Lake (Schwatka). This channel is not more than 600 or 700 yards long, and the water in it appears to be sufficiently deep for boats that could navigate the lake. The land between the lakes along this channel is low, swampy, and covered with willows, and, at the stage in which I saw it, did not rise more than 3 feet above the water. The hills on the southwest side slope up easily, and are not

*The connecting waters between Lake Bennet and Tagish Lake constitute what is now called Caribou Crossing.

high ; on the north side the deep valley already referred to borders it ; and on the east side the mountains rise abruptly from the lake shore.

"Bove Lake (called Tagish Lake by Dr. Dawson) is about a mile wide for the first two miles of its length, when it is joined by what the miners have called the Windy Arm. One of the Tagish Indians informed me they called it Takone Lake. Here the lake expands to a width of about two miles for a distance of some three miles, when it suddenly narrows to about half a mile for a distance of a little over a mile, after which it widens again to about a mile and a half or more.

"Ten miles from the head of the lake it is joined by the Taku Arm from the south. This arm must be of considerable length, as it can be seen for a long distance, and its valley can be traced through the mountains much farther than the lake itself can be seen. It is apparently over a mile wide at its mouth or junction.

"Dr. Dawson includes Bove Lake and these two arms under the common name of Tagish Lake. This is much more simple and comprehensive than the various names given them by travellers. These waters collectively are the fishing and hunting grounds of the Tagish Indians, and as they are really one body of water, there is no reason why they should not be all included under one name.

"From the junction with the Taku Arm to the north end of the lake the distance is about six miles, the greater part being over two miles wide. The west side is very flat and shallow, so much so that it was impossible in many places to get our canoes to the shore, and quite a distance out in the lake there was not more than 5 feet of water. The members of my party who were in charge of the large boat and outfit, went down the east side of the lake and reported the depth about the same as I found on the west side, with many large rocks. They passed through it in the night in

a rainstorm, and were much alarmed for the safety of the boat and provisions. It would appear that this part of the lake requires some improvement to make it in keeping with the rest of the water system with which it is connected.

"Where the river debouches from it, it is about 150 yards wide, and for a short distance not more than 5 or 6 feet deep. The depth is, however, soon increased to 10 feet or more, and so continues down to what Schwatka calls Marsh Lake. The miners call it Mud Lake, but on this name they do not appear to be agreed, many of them calling the lower part of Tagish or Bove Lake "Mud Lake," on account of its shallowness and flat muddy shores, as seen along the west side, the side nearly always travelled, as it is more sheltered from the prevailing southerly winds. The term "Mud Lake" is, however, not applicable to this lake, as only a comparatively small part of it is shallow or muddy; and it is nearly as inapplicable to Marsh Lake, as the latter is not markedly muddy along the west side, and from the appearance of the east shore one would not judge it to be so, as the banks appear to be high and gravelly.

"Marsh Lake is a little over nineteen miles long, and averages about two miles in width. I tried to determine the width of it as I went along with my survey, by taking azimuths of points on the eastern shore from different stations of the survey; but in only one case did I succeed, as there were no prominent marks on that shore which could be identified from more than one place. The piece of river connecting Tagish and Marsh Lakes is about five miles long, and averages 150 to 200 yards in width, and, as already mentioned, is deep, except for a short distance at the head. On it are situated the only Indian houses to be found in the interior with any pretension to skill in construction. They show much more labor and imitativeness than one knowing anything about the Indian in his native state

would expect. The plan is evidently taken from the Indian houses on the coast, which appear to me to be a poor copy of the houses which the Hudson's Bay Company's servants build around their trading posts. These houses do not appear to have been used for some time past, and are almost in ruins. The Tagish Indians are now generally on the coast, as they find it much easier to live there than in their own country. As a matter of fact, what they make in their own country is taken from them by the Coast Indians, so that there is little inducement for them to remain.

"The Lewes River, where it leaves Marsh Lake, is about 200 yards wide, and averages this width as far as the cañon. I did not try to find bottom anywhere as I went along, except where I had reason to think it shallow, and there I always tried with my paddle. I did not anywhere find bottom with this, which shows that there is no part of this stretch of the river with less than six feet of water at medium height, at which stage it appeared to me the river was at that time.

"From the head of Lake Bennet to the cañon the corrected distance is ninety-five miles, all of which is navigable for boats drawing 5 feet or more. Add to this the westerly arm of Lake Bennet, and the Takone or Windy Arm of Tagish Lake, each about fifteen miles in length, and the Taku Arm of the latter lake, of unknown length, but probably not less than thirty miles, and we have a stretch of water of upwards of one hundred miles in length, all easily navigable ; and, as has been pointed out, easily connected with Taiya Inlet through the White Pass.

"No streams of any importance enter any of these lakes so far as I know. A river, called by Schwatka "McClintock River," enters Marsh Lake at the lower end from the east. It occupies a large valley, as seen from the westerly side of the lake, but the stream is apparently unimportant.

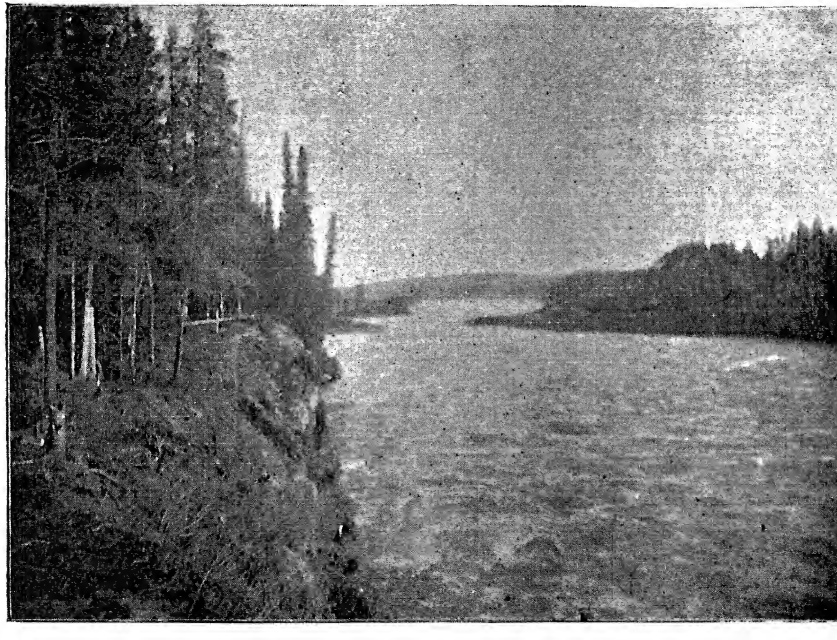
Another small stream, apparently only a creek, enters the south-east angle of the lake. It is not probable that any stream coming from the east side of the lake is of importance, as the strip of country between the Lewes and Teslintoo is not more than than thirty or forty miles in width at this point.

"The Taku Arm of Tagish Lake, is, so far, with the exception of reports from Indians, unknown; but it is equally improbable that any river of importance enters it, as it is so near the source of the waters flowing northwards. However, this is a question that can only be decided by a proper exploration. The cañon I have already described and will only add that it is five-eighths of a mile long, about 100 feet wide, with perpendicular banks of basaltic rock from 60 to 100 feet high.

"Below the cañon proper there is a stretch of rapids for about a mile; then about half a mile of smooth water, following which are the White Horse Rapids, which are three-eighths of a mile long, and unsafe for boats.

"The total fall in the cañon and succeeding rapids was measured and found to be 32 feet. Were it ever necessary to make this part of the river navigable it will be no easy task to overcome the obstacles at this point; but a tram or railway could, with very little difficulty, be constructed along the east side of the river past the cañon.

"For some distance below the White Horse Rapids the current is swift and the river wide, with many gravel bars. The reach between these rapids and Lake Labarge, a distance of twenty-seven and a half miles, is all smooth water, with a strong current. The average width is about 150 yards. There is no impediment to navigation other than the swift current, and this is no stronger than on the lower part of the river, which is already navigated; nor is it worse than on the Saskatchewan and Red Rivers in the more eastern part of our territory.



WHITE HORSE RAPIDS. "KEEP A GOOD LOOK OUT"

"About midway in this stretch the Tahkeena River * joins the Lewes. This river is, apparently, about half the size of the latter. Its waters are muddy, indicating the passage through a clayey district. I got some indefinite information about this river from an Indian who happened to meet me just below its mouth, but I could not readily make him understand me, and his replies were a compound of Chinook, Tagish, and signs, and therefore largely unintelligible. From what I could understand with any certainty, the river was easy to descend, there being no bad rapids, and it came out of a lake much larger than any I had yet passed.

"Here I may remark that I have invariably found it difficult to get reliable or definite information from Indians. The reasons for this are many. Most of the Indians it has been my lot to meet are expecting to make something, and consequently are very chary about doing or saying anything unless they think they will be well rewarded for it. They are naturally very suspicious of strangers, and it takes some time, and some knowledge of their language, to overcome this suspicion and gain their confidence. If you begin at once to ask questions about their country, without previously having them understand that you have no unfriendly motive in doing so, they become alarmed, and although you may not meet with a positive refusal to answer questions, you make very little progress in getting desired information. On the other hand I have met cases where, either through fear or hope of reward, they were only too anxious to impart all they knew or had heard, and even more if they thought it would please their hearer. I need hardly say that such information is often not at all in accordance with the facts.

* The Tahkeena was formerly much used by the Chilkat Indians as a means of reaching the interior, but never by the miners owing to the distance from the sea to its head.

"I have several times found that some act of mine when in their presence has aroused either their fear, superstition or cupidity. As an instance: on the Bell River I met some Indians coming down stream as I was going up. We were ashore at the time, and invited them to join us. They started to come in, but very slowly, and all the time kept a watchful eye on us. I noticed that my double-barrelled shot gun was lying at my feet, loaded, and picked it up to unload it, as I knew they would be handling it after landing. This alarmed them so much that it was some time before they came in, and I don't think they would have come ashore at all had they not heard that a party of white men of whom we answered the description, were coming through that way (they had learned this from the Hudson's Bay Company's officers), and concluded we were the party described to them. After drinking some of our tea, and getting a supply for themselves, they became quite friendly and communicative.

"I cite these as instances of what one meets with who comes in contact with Indians, and of how trifles affect them. A sojourn of two or three days with them and the assistance of a common friend would do much to disabuse them of such ideas, but when you have no such aids you must not expect to make much progress.

"Lake Labarge is thirty-one miles long. In the upper thirteen it varies from three to four miles in width; it then narrows to about two miles for a distance of seven miles, when it begins to widen again, and gradually expands to about two and a-half or three miles, the lower six miles of it maintaining the latter width. The survey was carried along the western shore, and while so engaged I determined the width of the upper wide part by triangulation at two points, the width of the narrow middle part at three points, and the width of the lower part at three points. Dr. Dawson on his way out made a track survey of the

eastern shore. The western shore is irregular in many places, being indented by large bays, especially at the upper and lower ends. These bays are, as a rule, shallow, more especially those at the lower end.

"Just above where the lake narrows in the middle there is a large island. It is three and a-half miles long and about half a mile in width. It is shown on Schwatka's map as a peninsula, and called by him Richtofen Rocks. How he came to think it a peninsula I cannot understand, as it is well out in the lake; the nearest point of it to the western shore is upwards of half a mile distant, and the extreme width of the lake here is not more than five miles, which includes the depth of the deepest bays on the western side. It is therefore difficult to understand that he did not see it as an island. The upper half of this island is gravelly, and does not rise very high above the lake. The lower end is rocky and high, the rock being of a bright red color.

"At the lower end of the lake there is a large valley extending northwards, which has evidently at one time been the outlet of the lake. Dr. Dawson has noted it and its peculiarities. His remarks regarding it will be found on pages 156–160 of his report entitled 'Yukon District and Northern portion of British Columbia,' published in 1889.

"The width of the Lewes River as it leaves the lake is the same as at its entrance, about 200 yards. Its waters when I was there were murky. This is caused by the action of the waves on the shore along the lower end of the lake. The water at the upper end and at the middle of the lake is quite clear, so much so that the bottom can be distinctly seen at a depth of 6 or 7 feet. The wind blows almost constantly down this lake, and in a high wind it gets very rough. The miners complain of much detention owing to this cause, and certainly I cannot complain of a lack of wind while I was on the lake. This lake was named after one Mike Labarge, who was engaged by the Western Union

Telegraph Company, exploring the river and adjacent country for the purpose of connecting Europe and America by telegraph through British Columbia, and Alaska, and across Behring Strait to Asia, and thence to Europe. This exploration took place in 1867, but it does not appear that Labarge then, nor for some years after, saw the lake called by his name. The successful laying of the Atlantic cable in 1866 put a stop to this project, and the exploring parties sent out were recalled as soon as word could be got to them. It seems that Labarge had got up as far as the Pelly before he received his recall; he had heard something of a large lake some distance further up the river, and afterwards spoke of it to some traders and miners who called it after him.

"After leaving Lake Labarge the river, for a distance of about five miles, preserves a generally uniform width and an easy current of about four miles per hour. It then makes a short turn round a low gravel point, and flows in exactly the opposite of its general course for a mile when it again turns sharply to its general direction. The current around this curve and for some distance below it—in all four or five miles—is very swift. I timed it in several places and found it from six to seven miles an hour. It then moderates to four or five, and continues so until the Teslintoo River is reached, thirty-one and seven tenths miles from Lake Labarge. The average width of this part of the river is about 150 yards, and the depth is sufficient to afford passage for boats drawing at least 5 feet. It is, as a rule, crooked, and consequently a little difficult to navigate.

"The Teslintoo* was so called by Dr. Dawson—this, ac-

*The limited amount of prospecting that has been done on this river is said to be very satisfactory, fine gold having been found in all parts of the triver. The lack of supplies is the great drawback to its development, and this will not be overcome to any ex-

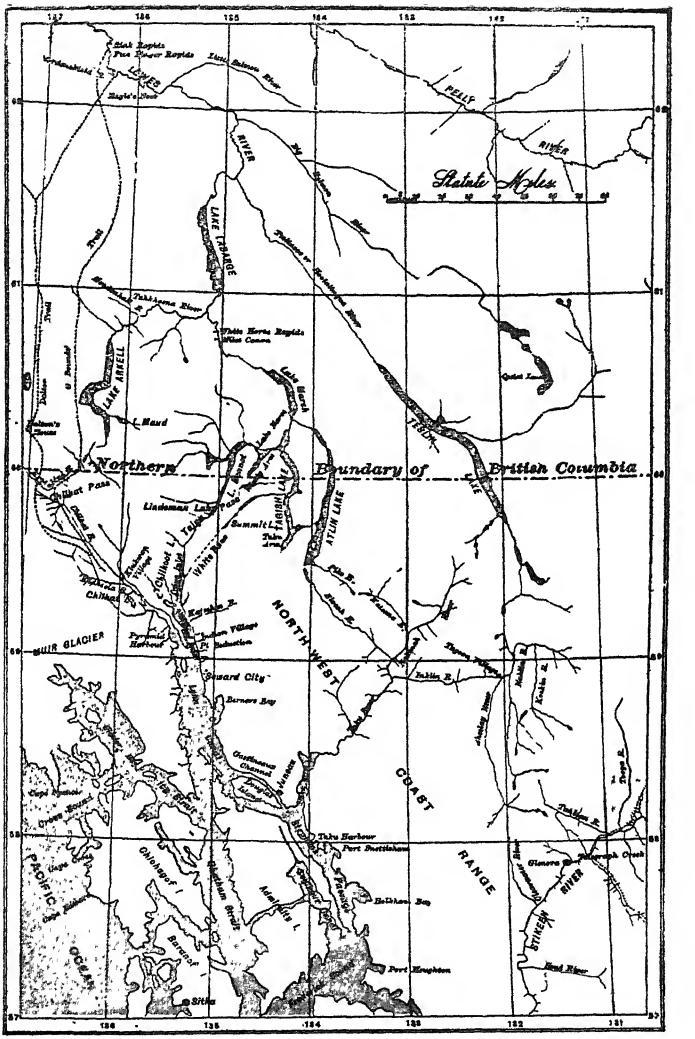
cording to information obtained by him, being the Indian name. It is called by the miners 'Hootalinkwa' or Hotalinqua, and was called by Schwatka, who appears to have bestowed no other attention to it, the Newberry, although it is apparently much larger than the Lewes. This was so apparent that in my interim reports I stated it as a fact. Owing to circumstances already narrated, I had not time while at the mouth to make any measurement to determine the relative size of the rivers; but on his way out Dr. Dawson made these measurements, and his report, before referred to, gives the following values of the cross sections of each stream: Lewes, 3,015 feet; Teslintoo, 3,809 feet. In the same connection he states that the Lewes appeared to be about 1 foot above its lowest summer level, while the Teslintoo appeared to be at its lowest level. Assuming this to be so, and taking his widths as our data, it would reduce his cross section of the Lewes to 2,595 feet. Owing, however, to the current in the Lewes, as determined by Dr. Dawson, being just double that of the Teslintoo, the figures being 5·68 and 2·88 miles per hour, respectively, the discharge of the Lewes, taking these figures again in 18,644 feet, and of the Teslintoo 11,436 feet. To reduce the Lewes to its lowest level the doctor says would make its discharge 15,600 feet.

"The water of the Teslintoo is of a dark brown color, similar in appearance to the Ottawa River water, and a little turbid. Notwithstanding the difference of volume of dis-

tent until by some means heavy freight can be brought over the coast range to the head of the river. Indeed, owing to the difficulties attending access and transportation, the great drawback to the entire Yukon district at present is the want of heavy mining machinery and the scarcity of supplies. The government being aware of the requirements and possibilities of the country, has undertaken the task of making preliminary surveys for trails and railroads, and no doubt in the near future the avenue for better and quicker transportation facilities will be opened up.

charge, the Teslintoo changes completely the character of the river below the junction, and a person coming up the river would, at the forks, unhesitatingly pronounce the Teslintoo the main stream. The water of the Lewes is blue in color, and at the time I speak of was somewhat dirty—not enough so, however, to prevent one seeing to a depth of two or three feet.

"At the junction of the Lewes and Teslintoo I met two or three families of the Indians who hunt in the vicinity. One of them could speak a little Chinook. As I had two men with me who understood his jargon perfectly, with their assistance I tried to get some information from him about the river. He told me the river was easy to ascend, and presented the same appearance eight days journey up as at the mouth; then a lake was reached, which took one day to cross; the river was then followed again for half a day to another lake, which took two days to traverse: into this lake emptied a stream which they used as a highway to the coast, passing by way of the Taku River. He said it took four days when they had loads to carry, from the head of canoe navigation on the Teslintoo to salt water on the Taku Inlet; but when they come light they take only one to two days. He spoke also of a stream entering the large lake from the east which came from a distance; but they did not seem to know much about it, and considered it outside their country. If their time intervals are approximately accurate, they mean that there are about 200 miles of good river to the first lake, as they ought easily to make 25 miles a day on the river as I saw it. The lake takes one day to traverse, and is at least 25 miles long, followed by say 12 of river, which brings us to the large lake, which takes two days to cross, say 50 or 60 more—in all about 292 miles—say 300 to the head of canoe navigation; while the distance from the head of Lake Bennet to the junction is only 188. Assuming the course of the Teslintoo to be nearly south



THE NORTHERN BOUNDARY OF BRITISH COLUMBIA

(it is a little to the east of it), and throwing out every fourth mile for bends, the remainder gives us in arc three degrees and a quarter of latitude, which, deducted from 61° 40′, the latitude of the junction, gives us 58° 25′, or nearly the latitude of Juneau.

"To make sure that I understood the Indian aright, and that he knew what he was speaking about, I got him to sketch the river and lake, as he described them, on the sand, and repeat the same several times.

"I afterwards met Mr. T. Boswell, his brother, and another miner, who had spent most of the summer on the river prospecting, and from them I gathered the following:

"The distance to the first, and only lake which they saw, they put at 175 miles, and the lake itself they call at least 150 miles long, as it took them four days to row in a light boat from end to end. The portage to the sea they did not appear to know anything about, but describe a large bay on the east side of the lake, into which a river of considerable size entered. This river occupies a wide valley, surrounded by high mountains. They thought this river must head near Liard River. This account differs materially from that given by the Indian, and to put them on their guard, I told them what he had told me, but they still persisted in their story, which I find differs a good deal from the account they gave Dr. Dawson, as incorporated in his report.

"Many years ago, sixteen I think, a man named Monroe prospected up the Taku and learned from the Indians something of a large lake not far from that river. He crossed over and found it, and spent some time in prospecting, and then recrossed to the sea. This man had been at Forty Mile River, and I heard from the miners there his account of the appearance of the lake, which amounted generally to this: The Boswells did not know anything about it." It was unfortunate the Boswells did not remain

at Forty Mile all winter, as by a comparison of recollections they might have arrived at some correct conclusion.

"Conflicting as these descriptions are, one thing is certain: this branch, if it has not the greater discharge, is the longer and more important of the two, and offers easy and uninterrupted navigation for more than double the distance which the Lewes does, the cañon being only ninety miles above the mouth of the Teslintoo. The Boswells reported it as containing much more useful timber than the Lewes, which indeed one would infer from its lower altitude.

"Assuming this as the main river, and adding its length to the Lewes-Yukon below the junction, gives upward of 2,200 miles of river, fully two-thirds of which runs through a very mountainous country, without an impediment to navigation.

"Some indefinite information was obtained as to the position of this river in the neighborhood of Marsh Lake tending to show that the distance between them was only about thirty or forty miles.

"Between the Teslintoo and the Big Salmon, so called by the miners, or D'Abbadie by Schwatka, the distance is thirty-three and a-half miles, in which the Lewes preserves a generally uniform width and current. For a few miles below the Teslintoo it is a little over the ordinary width, but then contracts to about two hundred yards which it maintains with little variation. The current is generally from four to five miles per hour.

"The Big Salmon I found to be about one hundred yards wide near the mouth, the depth not more than four or five feet, and the current, so far as could be seen, sluggish. None of the miners I met could give me any information concerning this stream; but Dr. Dawson was more fortunate, and met a man who had spent most of the summer of 1887 prospecting on it. His opinion was that it might be navi-

gable for small stern-wheel steamers for many miles. The valley, as seen from the mouth, is wide, and gives one the impression of being occupied by a much more important stream. Looking up it, in the distance could be seen many high peaks covered with snow. As the date was August it is likely they are always so covered, which would make their probable altitude above the river 5,000 feet or more.

"Dr. Dawson, in his report, incorporates fully the notes obtained from the miners. I will trespass so far on these as to say that they called the distance to a small lake near the head of the river, 190 miles from the mouth. This lake was estimated to be four miles in length; another lake about 12 miles above this was estimated to be twenty-four miles long, and its upper end distant only about eight miles from the Teslintoo. These distances, if correct, make this river much more important than a casual glance at it would indicate; this, however, will be more fully spoken of under its proper head.

"Just below the Big Salmon the Lewes takes a bend of nearly a right angle. Its course from the junction with the Tahkeena to this point is generally a little east of north; at this point it turns to nearly west for some distance. Its course between here and its confluence with the Pelly is north-west, and, I may add, it preserves this general direction down to the confluence with the Porcupine. The river also changes in another respect; it is generally wider, and often expands into what might be called lakes, in which are islands. Some of the lakes are of considerable length, and well timbered.

"To determine which channel is the main one, that is, which carries the greatest volume of water, or is best available for the purposes of navigation, among these islands, would require more time than I could devote to it on my way down; consequently I cannot say more than that I have

no reason to doubt that a channel giving six feet or more of water could easily be found. Whenever, in the main channel, I had reason to think the water shallow, I tried it with my paddle, but always failed to find bottom, which gives upward of six feet. Of course I often found less than this, but not in what I considered the main channel.

"Thirty-six and a quarter miles below the Big Salmon, the Little Salmon—the Daly of Schwatka—enters the Lewes. This river is about 60 yards wide at the mouth, and not more than two or three feet in depth. The water is clear and of a brownish hue; there is not much current at the mouth, nor as far as can be seen up the stream. The valley which, from the mouth, does not appear extensive, bears northeast for some distance, when it appears to turn more to the east. Six or seven miles up, and apparently on the north side, some high cliffs of red rock, apparently granite, can be seen. It is said that some miners have prospected this stream, but I could learn nothing definite about it.

"Lewes River makes a turn here to the southwest, and runs in that direction six miles, when it again turns to the northwest for seven miles, and then makes a short, sharp turn to the south and west around a low sandy point, which will, at some day in the near future, be cut through by the current, which will shorten the river three or four miles.

"Eight miles below Little Salmon River, a large rock called the Eagle's Nest, stands up in a gravel slope on the easterly bank of the river. It rises about five hundred feet above the river, and is composed of a light gray stone. What the character of this rock is I could not observe, as I saw it only from the river, which is about a quarter of a mile distant. On the westerly side of the river there are two or three other isolated masses of apparently the same kind of rock. One of them might be appropriately

called a mountain ; it is south-west from the Eagle's Nest and distant from it about three miles.

"Thirty-two miles below Eagle's Nest Rock, Nordenskiold River enters from the west. It is an unimportant stream, being not more than one hundred and twenty feet wide at the mouth, and only a few inches deep. The valley, as far as can be seen, is not extensive, and, being very crooked, it is hard to tell what its general direction is.

"The Lewes, between the Little Salmon and the Nordenskiold, maintains a width of from two to three hundred yards, with an occasional expansion where there are islands. It is serpentine in its course most of the way, and where the Nordenskiold joins it is very crooked, running several times under a hill, named by Schwatka Tantalus Butte, and in other places leaving it, for a distance of eight miles. The distance across from point to point is only half a mile.

"Below this to Five Finger Rapids, so-called from the fact that five large masses of rock stand in mid-channel, the river assumes its ordinary straightness and width, with a current from four to five miles per hour. I have already described Five Finger Rapids ; I do not think they will prove anything more than a slight obstruction in the navigation of the river. A boat of ordinary power would probably have to help herself up with windlass and line in high water.

"Below the rapids, for about two miles, the current is strong—probably six miles per hour—but the water seems to be deep enough for any boat that is likely to navigate it.

"Six miles below this, as already noticed, Rink Rapids are situated. They are of no great importance, the westerly half of the stream only being obstructed. The easterly half is not in any way affected, the current being smooth and the water deep.

"Below Five Finger Rapids about two miles a small

stream enters from the east. It is called by Dr. Dawson Tatshun River. It is not more than 30 or 40 feet wide at the mouth, and contains only a little clear, brownish water. Here I met the only Indians seen on the river between Teslintoo and Stewart Rivers. They were engaged in catching salmon at the mouth of the Tatshun, and were the poorest and most unintelligent Indians it has ever been my lot to meet. It is needless to say that none of our party understood anything they said, as they could not speak a word of any language but their own. I tried by signs to get some information from them about the stream they were fishing in, but failed. I tried in the same way to learn if there were any more Indians in the vicinity, but again utterly failed. I then tried by signs to find out how many days it took to go down to Pelly River, but although I have never known these signs to fail in eliciting information in any other part of the territory, they did not understand. They appeared to be alarmed by our presence; and, as we had not yet been assured as to the rumor concerning the trouble between the miners and Indians, we felt a little apprehensive, but being able to learn nothing from them we had to put our fears aside and proceed blindly.

"Between Five Finger Rapids and Pelly River, fifty-eight and a half-miles, no streams of any importance enter the Lewes; in fact, with the exception of the Tatshun, it may be said that none at all enter.

"About a mile below Rink Rapids the river spreads out into a lake-like expanse, with many islands; this continues for about three miles, when it contracts to something like the usual width; but bars and small islands are very numerous all the way to Pelly River. About five miles above Pelly River there is another lake-like expanse filled with islands. The river here for three or four miles is nearly a mile wide, and so numerous and close are the

islands that it is impossible to tell when floating among them where the shores of the river are. The current, too, is swift, leading one to suppose the water shallow ; but I think even here a channel deep enough for such boats as will navigate this part of the river can be found. Schwatka named this group of islands "Ingersoll Islands."

"At the mouth of the Pelly the Lewes is about half a mile wide, and here too there are many islands, but not in groups as at Ingersoll Islands.

"About a mile below the Pelly, just at the ruins of Fort Selkirk, the Yukon was found to be 565 yards wide ; about two-thirds being ten feet deep, with a current of about four and three-quarter miles per hour ; the remaining third was more than half taken up by a bar, and the current between it and the south shore was very slack.

"Pelly River at its mouth is about two hundred yards wide, and continues this width as far up as could be seen. Dr. Dawson made a survey and examination of this river, which will be found in his report already cited, "Yukon District and Northern British Columbia."

"Just here for a short distance the course of the Yukon is nearly west, and on the south side, about a mile below the mouth of the Lewes, stands all that remains of the only trading post ever built by white men in the district. This post was established by Robert Campbell, for the Hudson's Bay Company in the summer of 1848. It was first built on the point of land between the two rivers, but this location proving untenable on account of flooding by ice jams in the spring, it was, in the season of 1852, moved across the river to where the ruins now stand. It appears that the houses composing the post were not finished when the Indians from the coast on Chilkat and Chilkoot Inlets came down the river to put a stop to the competitive trade which Mr. Campbell had inaugurated, and which they found to seriously intefere with their profits. Their method of trade

appears to have been then pretty much as it is now—very onesided. What they found it convenient to take by force they took, and what it was convenient to pay for at their own price they paid for.

"Rumors had reached the post that the coast Indians contemplated such a raid, and in consequence the native Indians in the vicinity remained about nearly all summer. Unfortunately, they went away for a short time, and during their absence the coast Indians arrived in the early morning, and surprised Mr. Campbell in bed. They were not at all rough with him, but gave him the privilege of leaving the place within twenty-four hours, after which he was informed that he was liable to be shot if seen by them in the locality. They then pillaged the place and set fire to it, leaving nothing but the remains of the two chimneys which are still standing. This raid and capture took place on the 1st August, 1852.

"Mr. Campbell dropped down the river, and met some of the local Indians who returned with him, but the robbers had made their escape. I have heard that the local Indians wished to pursue and overtake them, but to this Mr. Campbell would not consent. Had they done so it is probable not many of the raiders would have escaped, as the superior local knowledge of the natives would have given them an advantage difficult to estimate, and the confidence and spirit derived from the aid and presence of a white man or two would be worth much in such a conflict.

"Mr. Campbell went on down the river until he met the outfit for his post on its way up from Fort Yukon, which he turned back. He then ascended the Pelly, crossed to the Liard, and reached Fort Simpson, on the Mackenzie, late in October.

"Mr. Campbell's first visit to the site of Fort Selkirk was made in 1840, under instructions from Sir George

Simpson, then Governor of the Hudson's Bay Company. He crossed from the head waters of the Liard to the waters of the Pelly. It appears the Pelly, where he struck it, was a stream of considerable size, for he speaks of its appearance when he first saw it from 'Pelly Banks,' the name given the bank from which he first beheld it, as a 'splendid river in the distance.' In June, 1843, he descended the Pelly to its confluence with the larger stream, which he named the 'Lewes.' Here he found many families of the native Indians—'Wood Indians,' he called them. These people conveyed to him, as best they could by word and sign, the dangers that would attend a further descent of the river, representing that the country below theirs was inhabited by a tribe of fierce cannibals, who would assuredly kill and eat them. This so terrified his men that he had to return by the way he came, pursued, as he afterwards learned, by the Indians, who would have murdered himself and party had they got a favorable opportunity. Thus it was not until 1850 that he could establish, what he says he all along believed, 'that the Pelly and Yukon were identical.' This he did by descending the river to where the Porcupine joins it, and where in 1847 Fort Yukon was established by Mr. A. H. Murray for the Hudson's Bay Company.

"With reference to the tales told him by the Indians of bad people outside of their country, I may say that Mackenzie tells pretty much the same story of the Indians on the Mackenzie when he discovered and explored that river in 1789. He had the advantage of having Indians along with him whose language was radically the same as that of the people he was coming among, and his statements are more explicit and detailed. Everywhere he came in contact with them they manifested, first, dread of himself and party, and when friendship and confidence were established they nearly always tried to detain him by

representing the people in the direction he was going as unnaturally bloodthirsty and cruel, sometimes asserting the existence of monsters with supernatural powers, as at Manitou Island, a few miles below the present Fort Good Hope, and the people on a very large river far to the west of the Mackenzie, probably the Yukon, they described to him as monsters in size, power and cruelty.

"In our own time, after the intercourse that there has been between them and the whites, more than a suspicion of such unknown, cruel people lurks in the minds of many of the Indians. It would be futile for me to try to ascribe an origin for these fears, my knowledge of their language and idiosyncrasies being so limited.

"Nothing more was ever done in the vicinity of Fort Selkirk * by the Hudson's Bay Company after these events, and in 1869 the Company was ordered by Capt. Charles W. Raymond, who represented the United States Government, to evacuate the post at Fort Yukon, he having found that it was west of the 141st meridian. The post was occupied by the Company, however, for some time after the receipt of this order, and until Rampart House was built, which was intended to be on British territory, and to take the trade previously done at Fort Yukon.

"Under present conditions the Company cannot very well compete with the Alaska Commercial Company, whose agents do the only trade in the district,† and they appear to have abandoned—for the present at least—all

*This is now a winter port for steamboats of the North American Transportation and Trading Company, plying the Yukon and its tributaries. There is also a trading post here owned by Harper & Ladue.

† Since the date of this report the North American Transportation and Trading Company, better known in the Yukon valley as "Captain Healy's Company," has established a number of posts on the river.

attempt to do any trade nearer to it than Rampart House to which point, notwithstanding the distance and difficulties in the way, many of the Indians on the Yukon make a trip every two or three years to procure goods in exchange for their furs. The clothing and blankets brought in by the Hudson's Bay Company they claim are much better than those traded on their own river by the Americans. Those of them that I saw who had any English blankets exhibited them with pride, and exclaimed 'good.' They point to an American blanket in contempt, with the remark 'no good,' and speak of their clothing in the same way.

"On many maps of Alaska a place named 'Reed's House' is shown on or near the upper waters of Stewart River. I made enquiries of all whom I thought likely to know anything concerning this post, but failed to elicit any information showing that there ever had been such a place. I enquired of Mr. Reid, who was in the Company's service with Mr. Campbell at Fort Selkirk, and after whom I thought, possibly, the place had been called, but he told me he knew of no such post, but that there was a small lake at some distance in a northerly direction from Fort Selkirk, where fish were procured. A sort of shelter had been made at that point for the fishermen, and a few furs might have been obtained there, but it was never regarded as a trading post.

"Below Fort Selkirk, the Yukon River is from five to six hundred yards broad, and maintains this width down to White River, a distance of ninety-six miles. Islands are numerous, so much so that there are very few parts of the river where there are not one or more in sight. Many of them are of considerable size, and nearly all are well timbered. Bars are also numerous, but almost all are composed of gravel, so that navigators will not have to complain of shifting sand bars. The current as a general

thing, is not so rapid as in the upper part of the river, averaging about four miles per hour. The depth in the main channel was always found to be more than six feet.

"From Pelly River to within twelve miles of White River the general course of the river is a little north of west; it then turns to the north, and the general course as far as the site of Fort Reliance is due north.

"White River enters the main river from the west. At the mouth it is about two hundred yards wide, but a great part of it is filled with ever-shifting sand-bars, the main volume of water being confined to a channel not more than one hundred yards in width. The current is very strong, certainly not less than eight miles per hour. The color of the water bears witness to this, as it is much the muddiest that I have ever seen.*

"I had intended to make a survey of part of this river as far as the International Boundary, and attempted to do so; but after trying for over half a day, I found it would be a task of much labor and time, altogether out of proportion to the importance of the end sought, and therefore abandoned it. The valley as far as can be seen from the mouth, runs about due west for a distance of eight miles; it then appears to bear to the south-west; it is about two miles wide where it joins the Pelly valley and apparently keeps the same width as far as it can be seen.

"Mr. Harper, of the firm of Harper & Ladue, went up this river with sleds in the fall of 1872 a distance of fifty or sixty miles. He describes it as possessing the same

*The White River very probably flows over volcanic deposits as its sediments would indicate; no doubt this would account for the discoloration of its waters. The volcanic ash appears to cover a great extent of the Upper Yukon basin drained by the Lewes and Pelly Rivers. Very full treatment of the subject is given by Dr. Dawson, in his report entitled "Yukon District and Northern portion of British Columbia."

general features all the way up, with much clay soil along its banks. Its general course, as sketched by him on a map of mine, is for a distance of about thirty miles a little north-west, thence south-west thirty or thirty-five miles, when it deflects to the north-west running along the base of a high mountain ridge. If the courses given are correct it must rise somewhere near the head of Forty Mile River; and if so, its length is not at all in keeping with the volume of its discharge, when compared with the known length and discharge of other rivers in the territory. Mr. Harper mentioned an extensive flat south of the mountain range spoken of, across which many high mountain peaks could be seen. One of these he thought must be Mount St. Elias, as it overtopped all the others; but, as Mount St. Elias is about one hundred and eighty miles distant, his conclusion is not tenable. From his description of this mountain it must be more than twice the height of the highest peaks seen anywhere on the lower river, and consequently must be ten or twelve thousand feet above the sea. He stated that the current in the river was very swift, as far as he ascended, and the water muddy. The water from this river, though probably not a fourth of the volume of the Yukon, discolors the water of the latter completely; and a couple of miles, below the junction the whole river appears almost as dirty as White River.

"Between White and Stewart Rivers, ten miles, the river spreads out to a mile and upwards in width, and is a maze of islands and bars. The survey was carried down the easterly shore, and many of the channels passed through barely afforded water enough to float the canoes. The main channel is along the westerly shore, down which the large boat went, and the crew reported plenty of water.

"Stewart River enters from the east in the middle of a wide valley, with low hills on both sides, rising on the north sides in steps or terraces to distant hills of consider-

able height. The river half a mile or so above the mouth, is two hundred yards in width. The current is slack and the water shallow and clear, but dark colored.

"While at the mouth I was fortunate enough to meet a miner who had spent the whole of the summer of 1887 on the river and its branches prospecting and exploring. He gave me a good deal of information of which I give a summary. He is a native of New Brunswick, Alexander McDonald by name, and has spent some years mining in other places, but was very reticent about what he had made or found. Sixty or seventy miles up the Stewart a large creek enters from the south which he called Rose Bud Creek or River, and thirty or forty miles further up a considerable stream flows from the north-east, which appears to be Beaver River, as marked on the maps of that part of the country. From the head of this stream he floated down on a raft taking five days to do so. He estimated his progress at forty or fifty miles each day, which gives a length of from two hundred to two hundred and fifty miles. This is probably an over-estimate, unless the stream is very crooked, which, he stated, was not the case. As much of his time would be taken up in prospecting, I should call thirty miles or less a closer estimate of his progress. This river is from fifty to eighty yards wide and was never more than four or five feet deep, often being not more than two or three; the current, he said, was not at all swift. Above the mouth of this stream the main river is from one hundred to one hundred and thirty yards wide with an even current and clear water. Sixty or seventy miles above the last-mentioned branch another large branch joins, which is possibly the main river. At the head of it he found a lake nearly thirty miles long, and averaging a mile and a half in width, which he called Mayhew Lake, after one of the partners in the firm of Harper, McQuestion & Co.

ICE BREAKING UP IN THE YUKON

"Thirty miles or so above the forks on the other branch there are falls, which McDonald estimated to be from one to two hundred feet in height. I met several parties who had seen these falls, and they corroborate this estimate of their height. McDonald went on past the falls to the head of this branch and found terraced gravel hills to the west and north; he crossed them to the north and found a river flowing northward. On this he embarked on a raft and floated down it for a day or two, thinking it would turn to the west and join the Stewart, but finding it still continuing north, and acquiring too much volume to be any of the branches he had seen while passing up the Stewart, he returned to the point of his departure, and after prospecting among the hills around the head of the river, he started westward, crossing a high range of mountains composed principally of shales with many thin seams of what he called quartz, ranging from one to six inches in thickness.

"On the west side of this range he found a river flowing out of what he called Mayhew Lake, and crossing this got to the head of Beaver River, which he descended as before mentioned.

"It is probable the river flowing northwards, on which he made a journey and returned, was a branch of Peel River. He described the timber on the gravel terraces of the watershed as small and open. He was alone in this unknown wilderness all summer, not seeing even any of the natives. There are few men so constituted as to be capable of isolating themselves in such a manner. Judging from all I could learn it is probable a light-draught steamboat could navigate nearly all of Stewart River and its tributaries.

"From Stewart River to the site of Fort Reliance,*

*This was at one time a trading post occupied by Messrs. Harper & McQuestion.

seventy-three and a quarter miles, the Yukon is broad and full of islands. The average width is between a half and three quarters of a mile, but there are many expansions where it is over a mile in breadth; however, in these places it cannot be said that the waterway is wider than at other parts of the river, the islands being so large and numerous. In this reach no streams of any importance enter.

"About thirteen miles below Stewart River a large valley joins that of the river, but the stream occupying it is only a large creek. This agrees in position with what has been called Sixty Mile Creek, which was supposed to be about that distance above Fort Reliance, but it does not agree with descriptions which I received of it; moreover as Sixty Mile Creek is known to be a stream of considerable length, this creek would not answer its description.

"Twenty-two and a half miles from Stewart River another and larger creek enters from the same side; it agrees with the descriptions of Sixty Mile Creek, and I have so marked it on my map. This stream is of no importance, except for what mineral wealth may be found on it.*

"Six and a half miles above Fort Reliance the Thron-

*Sixty Mile Creek is about one hundred miles long, very crooked, with a swift current and many rapids, and is therefore not easy to ascend.

Miller, Glacier, Gold, Little Gold and Bedrock Creeks are all tributaries of Sixty Mile. Some of the richest discoveries in gold so far made in the interior since 1894 have been upon these creeks, especially has this been the case upon the two first mentioned. There is a claim upon Miller Creek owned by Joseph Boudreau from which over $100,000 worth of gold is said to have been taken out.

Freight for the mines is taken up Forty Mile Creek in summer for a distance of 30 miles, then portaged across to the heads of Miller and Glacier Creeks. In the winter it is hauled in by dogs.

Diuck * River of the Indians (Deer River of Schwatka) enters from the east. It is a small river about forty yards wide at the mouth, and shallow; the water is clear and transparent, and of beautiful blue color. The Indians catch great numbers of salmon here. They had been fishing shortly before my arrival, and the river, for some distance up, was full of salmon traps.

"A miner had prospected up this river for an estimated distance of forty miles, in the season of 1887. I did not see him, but got some of his information at second hand. The water being so beautifully clear I thought it must come through a large lake not far up; but as far as he had gone no lakes were seen. He said the current was comparatively slack, with an occasional 'ripple' or small rapid. Where he turned back the river is surrounded by high mountains, which were then covered with snow, which accounts for the purity and clearness of the water.

The trip from Cudahy to the post at the mouth of Sixty Mile River is made by ascending Forty Mile River a small distance, making a short portage to Sixty Mile River and running down with its swift current. Coming back on the Yukon, nearly the whole of the round trip is made down stream.

Indian Creek enters the Yukon from the east about 30 miles below Sixty Mile. It is reported to be rich in gold, but owing to to the scarcity of supplies its development has been retarded.

At the mouth of Sixty Mile Creek a townsite of that name is located, it is the headquarters for upwards of 100 miners and where they more or less assemble in the winter months.

Messrs. Harper & Co. have a trading post and a saw-mill on an island at the mouth of the creek, both of which are in charge of Mr. J. Ladue, one of the partners of the firm, and who was at one time in the employ of the Alaska Commercial Company.

* Dawson City is situated at the mouth of the Thron-Diuck now known as Klondyke, and although it was located only a few months ago it is the scene of great activity. Very rich deposits of gold have been lately found on Bonanza Creek and other affluents of the Thron-Diuck.

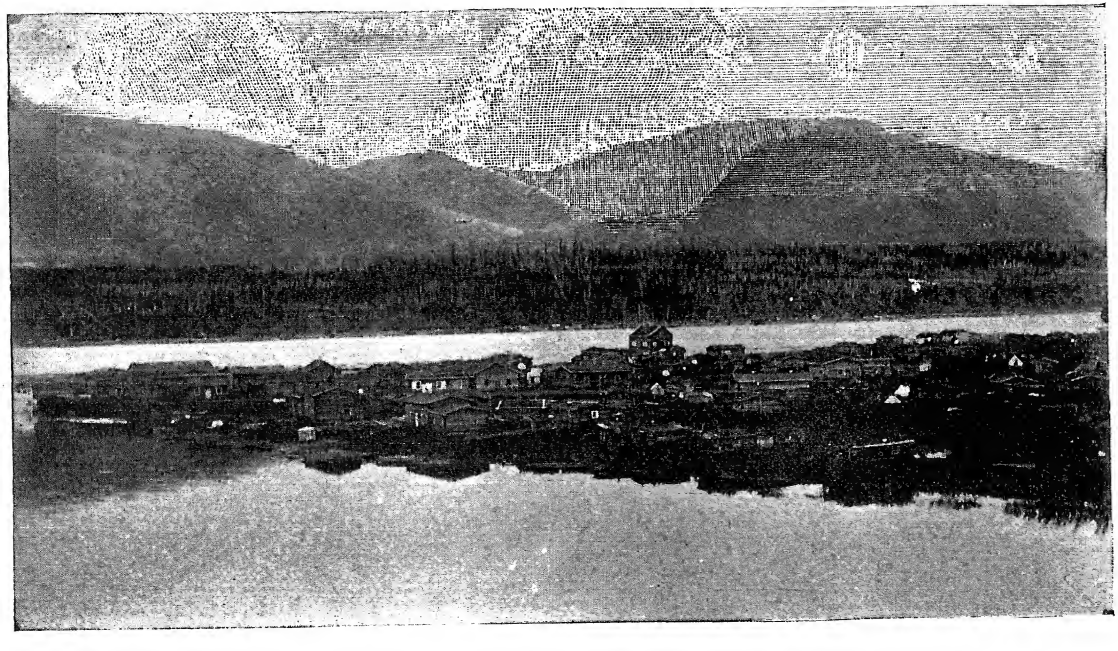
"It appears that the Indians go up this stream a long distance to hunt, but I could learn nothing definite as to their statements concerning it.

"Twelve and a half miles below Fort Reliance, the Chandindu River, as named by Schwatka, enters from the east. It is thirty to forty yards wide at the mouth, very shallow, and for half a mile up is one continuous rapid. Its valley is wide and can be seen for a long distance looking north-eastward from the mouth.

"Between Fort Reliance and Forty Mile River (called Cone Hill River by Schwatka) the Yukon assumes its normal appearance, having fewer islands and being narrower, averaging four to six hundred yards wide, and the current being more regular. This stretch is forty-six miles long, but was estimated by the traders at forty, from which the Forty Mile River took its name.

"Forty Mile River* joins the main river from the west. Its general course as far up as the International Boundary, a distance of twenty-three miles, is south-west; after this

* Forty Mile townsite is situated on the south side of the Forty Mile River at its junction with the Yukon. The Alaska Commercial Company has a station here which was for some years in charge of L. N. McQuestion; there are also several blacksmith shops, restaurants, billiard halls, bakeries, an opera house and so on. Rather more than half a mile below Forty Mile townsite the town of Cudahy was founded on the north side of Forty Mile River in the summer of 1892. It is named after a well known member of the North American Transportation and Trading Company. In population and extent of business the town bears comparison with its neighbor across the river. The opposition in trade has been the means of very materially reducing the cost of supplies and living. The North American Transportation and Trading Company has erected a saw-mill and some large warehouses. Fort Constantine was established here immediately upon the arrival of the Mounted Police detachment in the latter part of July, 1895. It is described further on in an extract from Inspector Constantine's supplementary report for the year 1895.



FORT CUDAHY, DESERTED FOR DAWSON CITY

it is reported by the miners to run nearer south. Many of them claim to have ascended this stream for more than one hundred miles, and speak of it there as quite a large river. They say that at that distance it has reached the level of the plateau, and the country adjoining it they describe as flat and swampy, rising very little above the river. It is only a short distance across to the Tanana River—a large tributary of the Yukon—which is here described as an important stream. However, only about twenty-three miles of Forty Mile River are in Canada; and the upper part of it and its relation to other rivers in the district have no direct interest for us.

"Forty Mile River is one hundred to one hundred and fifty yards wide at the mouth, and the current is generally strong, with many small rapids. Eight miles up is the so-called cañon; it is hardly entitled to that distinctive name, being simply a crooked contraction of the river, with steep rocky banks, and on the north side there is plenty of room to walk along the beach. At the lower end of the cañon there is a short turn and swift water in which are some large rocks; these cannot generally be seen, and there is much danger of striking them running down in a boat. At this point several miners have been drowned by their boats being upset in collision with these rocks. It is no great distance to either shore, and one would think an ordinary swimmer would have no difficulty in reaching land; but the coldness of the water soon benumbs a man completely and renders him powerless. In the summer of 1887, an Indian, from Tanana, with his family, was coming down to trade at the post at the mouth of Forty Mile River; his canoe struck on these rocks and upset, and he was thrown clear of the canoe, but the woman and children clung to it. In the rough water he lost sight of them, and concluded that they were lost: it is said he deliberately drew his knife and cut his throat, thus perishing, while

his family were hauled ashore by some miners. The chief of the band to which this Indian belonged came to the post and demanded pay for his loss, which he contended was occasioned by the traders having moved from Belle Isle to Forty Mile, thus causing them to descend this dangerous rapid, and there is little doubt that had there not been so many white men in the vicinity he would have tried to enforce his demand.

"The length of the so-called cañon is about a mile. Above it the river up to the boundary is generally smooth, with swift current and an occasional ripple. The amount of water discharged by this stream is considerable; but there is no prospect of navigation, it being so swift and broken by small rapids.

"From Forty Mile River to the boundary the Yukon preserves the same general character as between Fort Reliance and Forty Mile, the greatest width being about half a mile and the least about a quarter.

Fifteen miles below Forty Mile River a large mass of rock stands on the east bank. This was named by Schwatka 'Roquette Rock,' but is known to the traders as Old Woman Rock; a similar mass, on the west side of the river, being known as Old Man Rock.

"The origin of these names is an Indian legend, of which the following is the version given to me by the traders:—

"In remote ages there lived a powerful shaman, pronounced Tshaumen by the Indians, this being the local name for what is known as medicine man among the Indians farther south and east. The Tshaumen holds a position and exercises an influence among the people he lives with, something akin to the wise men or magi of olden times in the East. In this powerful being's locality there lived a poor man who had the great misfortune to have an inveterate scold for a wife. He bore the infliction for a long

time without murmuring, in hopes that she would relent, but time seemed only to increase the affliction; at length, growing weary of the unceasing torment, he complained to the Tshaumen who comforted him, and sent him home with the assurance that all would soon be well.

"Shortly after this he went out to hunt, and remained away for many days endeavoring to get some provisions for home use, but without avail; he returned weary and hungry, only to be met by his wife with a more than usually violent outburst of scolding. This so provoked him that he gathered all his strength and energy for one grand effort and gave her a kick that sent her clean across the river. On landing she was converted into the mass of rock which remains to this day a memorial of her viciousness and a warning to all future scolds. The metamorphosis was effected by the Tshaumen, but how the necessary force was acquired to send her across the river (here about half a mile wide), or whether the kick was administered by the Tshaumen or the husband, my narrator could not say. He was altogether at a loss to account for conversion of the husband into the mass of rock on the west side of the river; nor can I offer any theory unless it is that he was *petrified* by astonishment at the result.

"Such legends as this would be of interest to ethnologists if they could be procured direct from the Indians, but repeated by men who have little or no knowledge of the utility of legendary lore, and less sympathy with it, they lose much of their value.

"Between Forty Mile River and the boundary line no stream of any size joins the Yukon; in fact, there is only one stream, which some of the miners have named Sheep Creek, but as there is another stream further down the river, called by the same name. I have named it Coal Creek. It is five miles below Forty Mile, and comes in from the east, and is a large creek, but not at all navigable.

On it some extensive coal seams were seen, which will be more fully referred to further on.

* * * * * * *

"At the boundary the river is somewhat contracted, and measures only 1,280 feet across in the winter; but in summer, at ordinary water level, it would be about one hundred feet wider. Immediately below the boundary it expands to its usual width, which is about 2,000 feet. The area of the cross section measured is 22,268 feet, the sectional area of the Teslintoo, as determined by Dr. Dawson and already referred to, is 3,809 feet; that of the Lewes at the Teslintoo, from the same authority, is 3,015 feet. Had the above cross-section been reduced to the level at which the water ordinarily stands during the summer months, instead of to the height at which it stood in the middle of September when it was almost at its lowest, the sectional area would have been at least 50 per cent more, and at spring flood level about double the above area.

"It is a difficult matter to determine the actual discharge at the place of the cross-section, owing to the irregularity in the depth and current, the latter being in the deep channel at the east side, when I tried it in September, approximately 4·8 miles per hour; while on the bar in midstream it was not more than 2·5 miles per hour; and between the bar and the westerly shore there was very little current.

"The river above this for some miles was no better for the purpose of cross-section measurement. At the boundary it is narrow and clear of bars and islands for some miles, but here I did not have on opportunity to determine the rate of the current before the river froze up, and after it froze the drift ice was jammed and piled so high that it would have been an almost endless task to cut holes through it.

The current from the boundary down to the confluence with the Porcupine is said to be strong and much the same as that above; from the Porcupine down, for a distance of five or six hundred miles it is called medium and the remainder easy.

From Stewart River to the mouth of the Yukon is about 1,650 miles, and the only difficult place in all this distance is the part near the confluence with the Porcupine, which has evidently been a lake in past ages but is now filled with islands; it is said that the current here is swift, and the channels generally narrow, rendering navigation difficult.

CHAPTER III.

ADVICE TO BEGINNERS.

MEN who are thinking of going to the Klondyke regic and taking a trip of this character for the first time, v do well to carefully read the chapter on "Outfit Miners." It is a great mistake to take anything exc what is necessary; the trip is a long arduous one, an man should not add one pound of baggage to his outfit tl can be dispensed with. I have known men who h loaded themselves up with rifles, revolvers and shot-gu This is entirely unnecessary. Revolvers will get you i trouble, and there is no use of taking them with you, large game of any character is rarely found on the trip. have prospected through this region for some years a have only seen one moose. You will not see any la game whatever on your trip from Juneau to Dawson Ci therefore do not take any firearms along.

You will find a list of the implements for the miner the chapter on "Outfit for Miners."

The miners here are a very mixed class of people. Th represent many nationalities and come from all climat Their lives are certainly not enviable.

The regulation miner's cabin is 12 by 14 with walls feet high and gables eight feet in height. The roof heavily earthed and the cabin is generally kept very war Two, or sometimes three or four men will live in a house this size. The ventilation is usually bad, the windo

being very small. Those miners who do not work their claims during the winter confine themselves to these small huts most of the time. Very often they become indolent and careless, only eating those things which are most easily cooked or prepared. During the busy time in summer when they are shovelling in, they work hard and for long hours, sparing little time for eating and much less for cooking.

This manner of living is quite common amongst beginners, and soon leads to debility and sometimes to scurvy. Old miners have learned from experience to value health more than gold, and they therefore spare no expense in procuring the best and most varied outfit of food that can be obtained.

In a cold climate such as this, where it is impossible to get fresh vegetables and fruits, it is most important that the best substitutes for these should be provided. Nature helps to supply these wants by growing cranberries and other wild fruits in abundance, but men in summer are usually too busy to avail themselves of these.

The diseases met with in this country are dyspepsia, anæmia, scurvy caused by improperly cooked food, sameness of diet, overwork, want of fresh vegetables, overheated and badly ventilated houses; rheumatism, pneumonia, bronchitis, enteritis, cystitis and other acute diseases, from exposure to wet and cold; debility and chronic diseases, due to excesses.

Men coming to Klondyke should be sober, strong and healthy. They should be practical men, able to adapt themselves quickly to their surroundings. Special care should be taken to see that their lungs are sound, that they are free from rheumatism and rheumatic tendency, and that their joints, especially knee joints, are strong and have never been weakened by injury, synovitis or other disease. It is also very important to consider their tem-

peraments. Men should be of cheerful, hopeful dispositions and willing workers. Those of sullen, morose natures, although they may be good workers, are very apt, as soon as the novelty of the country wears off, to become dissatisfied, pessimistic and melancholy.

CHAPTER IV.

OUTFIT FOR MINERS.

In giving any advice for outfits for miners, I should first state that it is a great mistake to purchase anything whatever before arriving at Juneau, Alaska. This has been a supply point for that region for upwards of ten years, and store-keepers and supply companies carry in stock exactly what is necessary for the miners. You will find that their prices are reasonable, considering the difference in cost of transportation at any point you might decide to purchase from in the United States; in fact it is the saving of money to buy in Juneau.

In the matter of clothing, of course, it must be left to the individual taste and means of the purchaser, but the miners usually adopt the native costume of the region. The boots are generally made by the coast Indians and are of different varieties. The water boot is made of seal and walrus. It is important to take a pair of rubber boots along. Additional boots can be purchased at Dawson City. The native boots cost from two to five dollars a pair. Trousers are generally made from Siberian fawn skins and the skin of the marmot or the ground squirrel. The outer garments are generally made of the marmot skin. The people at Dawson City who are not engaged in mining, such as store-keepers, clerks, etc., generally wear these garments. Good warm flannels are important. Everything in the way of underwear is made of flannel, such as shirts. The cost of flannel shirts at Dawson City is $5. Rub-

ber boots at Dawson City are $10 to $12.00 a pair, Blankets and robes are used for bedding, and should be purchased at Juneau. Wolf skins make the best robes. Good ones cost $100 apiece, but cheaper ones can be obtained from the bear, mink, and red fox and Arctic Hare. Warm socks are made from the skin of the Arctic Hare.

If you have any delay at Juneau, you will, probably, be asked to take trips to the Giant Glaciers, but my advice is to stay in Juneau until the steamer is ready to start for Dyea. You will need all the rest you can get before starting up the Pass.

In the matter of provisions, the following is a list which is considered sufficient to last a man on his trip from Juneau to Dawson City :—

20 pounds of flour,
12 pounds of bacon,
12 " " beans,
4 " " butter,
5 " " vegetables,
4 cans of condensed milk,
5 pounds of sugar,
1 pound of tea,
3 pounds of coffee,
1 1-2 pound of salt,
5 pounds of corn meal,
A small portion of pepper and mustard.

The following utensils should be taken :—

1 frying pan,
1 water kettle,
1 Yukon stove,
1 bean pot,
2 plates,

1 tin drinking cup,
1 tea pot,
1 knife and fork,
1 large and 1 small cooking pan.

The following tools should be brought as part of the outfit :—These will be found absolutely necessary to build a boat at Lake Lindeman :—

1 jack plane,
1 whip saw,
1 cross-cut saw,
1 axe,
1 hatchet,
1 hunting-knife.
6 pounds of assorted nails,
1 pound of oakum,
5 pounds of pitch,
150 feet of rope,
1 Juneau sled.

It is also necessary to have one good duck tent and a rubber blanket.

A good piece of mosquito netting will not be heavy and will also be very great comfort on the trip.

Do not forget to put in a good supply of matches, and take a small supply of fishing tackle, hooks, etc.

It is very important that you have a pair of snow glasses to guard against snow blindness.

It will be interesting to know the prices at Dawson City for supplies :

When I left in June, 1897.
Flour was sold in 50 pound bags at $6.00 a bag.
Fresh beef was supplied at 50 cents a pound.

Coffee was 50 cents per pound.

Brown sugar was 20 cents per pound and granulated sugar was 25 cents a pound.

Condensed milk was 50 cents per can.

Pick axes were $6.00 each.

Miners' shovels were $2.00 each.

Lumber right at Dawson City was $130.00 per thousand feet undressed, and $150.00 per thousand feet dressed.

It is well perhaps to advise the traveller to supply himself with a small medicine box which can be purchased in Juneau, but it is not necessary if he enjoys good rugged health.

On arriving at Dawson City, luxuries will be found to be very high ; what is to be considered a very cheap cigar in the United States, two for 5 cents, sells in Dawson City at 50 cents each.

Liquors command very high prices. Whisky sells in the saloons for 50 cents a glass, and fluctuates from $15.00 to $25.00 per gallon, according to the supplies received from the at present overtaxed transportation companies. There was about 12,000 gallons of whisky imported into the territory from Canada the past year. Smoking tobacco was selling at $1.50 a pound and good plug-cut and fancy tobacco was selling at $2.00 a pound.

The demand for medicine is very light, but the local traders carry a small stock of patent and proprietary medicines.

CHAPTER V.

HOW TO STAKE OUT A MINING CLAIM.

THE method of locating a claim is essentially simple. It is peculiar to the Klondyke region because of the topography of the country. I refer of course to the claims staked out for placer mining, as up to this date this is the only mining attempted here. Throughout this section are numerous small streams or creeks, running through narrow valleys between the foot-hills. The prospective miner determines on which stream to hunt for the precious metal, and having made a "find" he stakes out his claim in the following manner:

In staking the claim the prospector must not exceed 500 feet up and down the creek, the general course of the valley. The width of the claim can run from base to base of the hills or mountains. If there are no claims located on this particular stream, the claim is known as the "discovery claim" and the stakes used are marked O. The next claim staked as you proceed *up* the creek is marked No. 1, as is the next claim going *down* the stream. There can be but two claims marked 1 on any one stream. The 4 stakes being driven and each marked with your own initials, and the letters M. L. (meaning mining location), you must bound your claim with cross or end lines, and then proceed within sixty days, to file the claim with the government's recorder at Dawson City. The recorder at present is also the gold commissioner. In recording, affidavits must be made that the claim is properly staked, and date given, and

gold been found. The number of claim must also be given, and if it is not the discovery claim it must be mentioned as for instance, No. 1 or No. 10 above or below "discovery claim," as the case may be. If a claim should be staked before gold is discovered thereon, the prospector has sixty days in which to prosecute the search for gold. If when this time has expired he is yet unsuccessful, he can no longer hold this claim, as the finding of the metal is absolutely necessary to the permanent holding of the claim.

The method for staking a quartz claim is similar. Here you lay out a claim 1500 feet long by 600 feet wide. The stakes are marked as in placer claims and the same rules govern in regard to finding of gold and filing the claims. The miner having filed his claim, it is necessary that he work the claim three consecutive months each year. These requirements though simple are imperatively necessary for the protection of the miner, for should a miner attempt to work a claim without first properly staking and recording the same, any one could come in, work on the property, properly stake and hold the claim, and so compel the first man to leave. A prospector can file but one claim. Others he may acquire must be by purchase and the bill of sale properly recorded at time of transfer. Should he abandon a claim he can of course locate another.

CHAPTER VI.

PLACER MINING.

MINING operations are thus far altogether placer mining, for the reason that the first discovery was of that nature and because no machinery was required. In fact no machinery was immediately accessible, there being none in the territory. Placer mining is the crudest and most primitive kind of mining and the cheapest to operate. As conducted at Dawson City it consists simply in sinking a shaft to bed rock and then tunnelling in various directions. The ground is always frozen solid in winter, and in summer below a depth of two feet, and there is no need of shoring as there is no danger of its caving. These conditions are peculiar to this interesting region, and in no other part of the world can shafts be sunk and tunnels made without great expense and loss of time in timbering and shoring, besides the loss of pay dirt in leaving columns standing, as is necessary anywhere else.

The pay dirt is taken out by a small windlass worked by hand and is simply thrown into a heap where it remains until spring, when it is washed out.

The depth necessary to go to reach bed rock—and it is always profitable to go to bed rock—varies from four to twenty feet.

The gold is found in nuggets, grains and dust. The largest nugget found in the mines first discovered weighed forty ounces and was worth perhaps five hundred dollars,

and from that size they run down to small grains of pure gold. Nuggets weighing several ounces are quite common.

I know of but one quartz mine located and staked thus far in the Klondyke region, but there are undoubtedly many and rich quartz mines in this section that will be located and staked in the near future when machinery can be brought in.

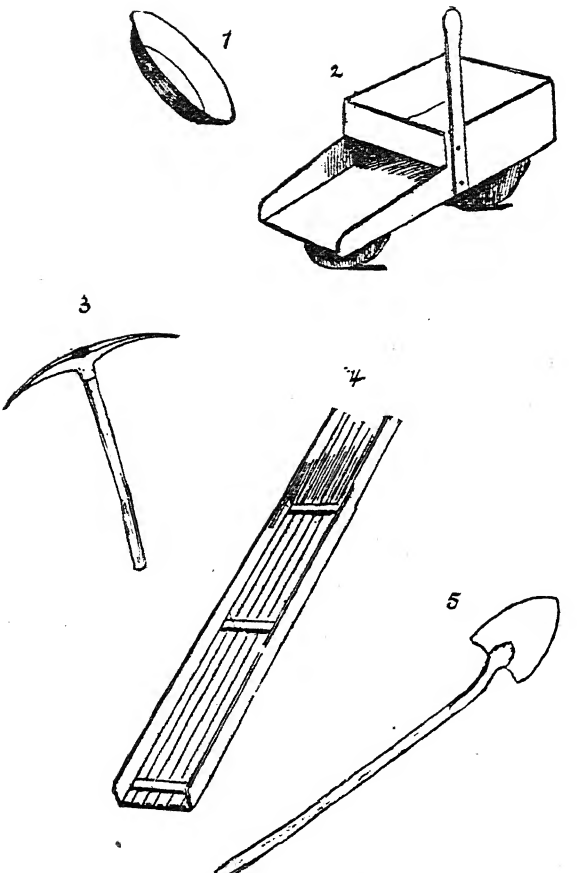
In placer mining the bed rock is often seamy and the gold is lodged in the seams and crevices. When these conditions exist the miners dig up the bed rock often to the depth of four feet and the richest finds have been taken in that way. In fact the methods of placer mining are peculiar to this strange and marvellously rich mineral country. The same methods and conditions do not exist anywhere else in the known world.

As I have said above, the pay dirt, when hoisted to the surface. is thrown into a pile and allowed to remain until spring, when it is washed. The cost of lumber for sluice boxes, etc., is at this writing $130, and for planed lumber $150 per thousand feet.

As very few outside of mining communities understand anything of the nomenclature of the craft, or of the methods employed to separate the very small quantities of the precious metal from the baser material with which it is associated, a short description will not be out of place.

When a miner "strikes" a bar he "prospects" it by washing a few panfuls of the gravel or sand of which it is composed. According to the number of "colors" he finds to the pan, that is, the number of specks of gold he can see in his pan after all the dirt has been washed out, he judges of its richness. Many of them have had so much experience that they can tell in a few minutes, very nearly, how much a bar will yield per day to the man.

The process of "placer" mining is about as follows:



THE PLACER MINER'S TOOLS

After clearing all the coarse gravel and stone off a patch of ground, the miner lifts a little of the finer gravel or sand in his pan, which is a broad, shallow dish, made of strong sheet iron; he then puts in water enough to fill the pan, and gives it a few rapid whirls and shakes; this tends to bring the gold to the bottom on account of its greater specific gravity. The dish is then shaken and held in such a way that the gravel and sand are gradually washed out, care being taken as the process nears completion to avoid letting out the finer and heavier parts that have settled to the bottom. Finally all that is left in the pan is whatever gold may have been in the dish and some black sand which almost invariably accompanies it.

This black sand is nothing but pulverized magnetic iron ore. Should the gold thus found be fine, the contents of the pan are thrown into a barrel containing water and a pound or two of mercury. As soon as the gold comes in contact with the mercury it combines with it and forms an amalgam. The process is continued until enough amalgam has been formed to pay for "roasting" or "firing."*

It is then squeezed through a buckskin bag, all the mercury that comes through the bag being put back into the barrel to serve again, and what remains in the bag is placed in a retort, if the miner has one, or, if not, on a shovel, and heated until nearly all the mercury is vaporized. The gold then remains in a lump with some mercury still held in combination with it.

This is called the "pan" or "hand" method, and is never, on account of its slowness and laboriousness, continued for any length of time when it is possible to procure a "rocker" or to make and work sluices.

A "rocker" is simply a box about three feet long and two wide, made in two parts, the top part being shallow, with a heavy sheet iron bottom, which is punched full

of quarter-inch holes. The other part of the box is fitted with an inclined shelf about midway in its depth, which is six or eight inches lower at its lower end than at its upper. Over this is placed a piece of heavy woollen blanket. The whole is then mounted on two rockers, much resembling those of an ordinary cradle, and when in use they are placed on two blocks of wood so that the whole may be readily rocked. After the miner has selected his claim, he looks for the most convenient place to set up his "rocker," which must be near a good supply of water. Then he proceeds to clear away all the stones and coarse gravel, gathering the finer gravel and sand in a heap near the "rocker." The shallow box on top is filled with this, and with one hand the miner rocks it, while with the other he ladles in water. The finer matter with the gold falls through the holes on to the blanket, which checks its progress, and holds the fine particles of gold, while the sand and other matter pass over it to the bottom of the box, which is sloped so that what comes through is washed downwards and finally out of the box. Across the bottom of the box are fixed thin slats, behind which some mercury is placed to catch any particles of gold which may escape the blanket. If the gold is nuggety, the large nuggets are found in the upper box, their weight detaining them until all the lighter stuff has passed through, and the smaller ones are held by a deeper slat at the outward end of the bottom of the box. The piece of blanket is, at intervals, taken out and rinsed into a barrel; if the gold is fine, mercury is placed at the bottom of the barrel, as already mentioned.

Sluicing is always employed when possible. It requires a good supply of water with sufficient head or falls. The process is as follows: Planks are procured and formed into a box of suitable width and depth. Slats are fixed

across the bottom of the box at suitable intervals, or shallow holes bored in the bottom in such order that no particle could run along the bottom in a straight line and escape without running over a hole. Several of these boxes are then set up with a considerable slope and are fitted into one another as the ends like a stove-pipe. A stream of water is now directed into the upper end of the highest box. The gravel having been collected, as in the case of the rocker, it is shovelled into the upper box and is washed downwards by the strong current of water. The gold is detained by its weight, and is held by the slats or in the holes mentioned; if it is fine, mercury is placed behind the slats or in these holes to catch it. In this way about three times as much dirt can be washed as by the rocker, and consequently three times as much gold is secured in a given time. After the boxes are done with they are burned, and the ashes washed for the gold held in the wood.*

* A great many of the miners spend their time in the summer prospecting and in the winter resort to a method lately adopted and which is called "burning." They make fires on the surface thus thawing the gound until the bed rock is reached, then drift and tunnel; the pay dirt is brought to the surface and heaped in a pile until spring when water can be obtained. The sluice boxes are then set up and the dirt is washed out, thus enabling the miner to work advantageously and profitably the year round. This method has been found very satisfactory in places where the pay streak is at any great depth from the surface. In this way the complaint is overcome which has been so commonly advanced by miners and others that in the Yukon several months of the year are lost in idleness. Winter usually sets in very soon after the middle of September and continues until the beginning of June and is decidedly cold. The mercury frequently falls to 60 degrees below zero, but in the interior there is so little humidity in the atmosphere that the cold is more easily endured then on the coast. In the absence of thermometers, miners, it is said, leave

their mercury out all night: when they find it frozen solid in the morning they conclude that it is too cold to work and stay at home. The temperature runs to great extremes in summer as well as in the winter; it is quite a common thing for the thermometers to register 100 degrees in the shade.

CHAPTER VII.

MINING LAW AND ORDER

THE reader of course understands that Alaska and the Northwest Territory are adjacent. I confine myself almost altogether to the Klondyke region, because by far the richest finds are there, and are therefore most interesting to the reader. As the Klondyke is in Canadian Territory it is of course governed by Canadian laws.

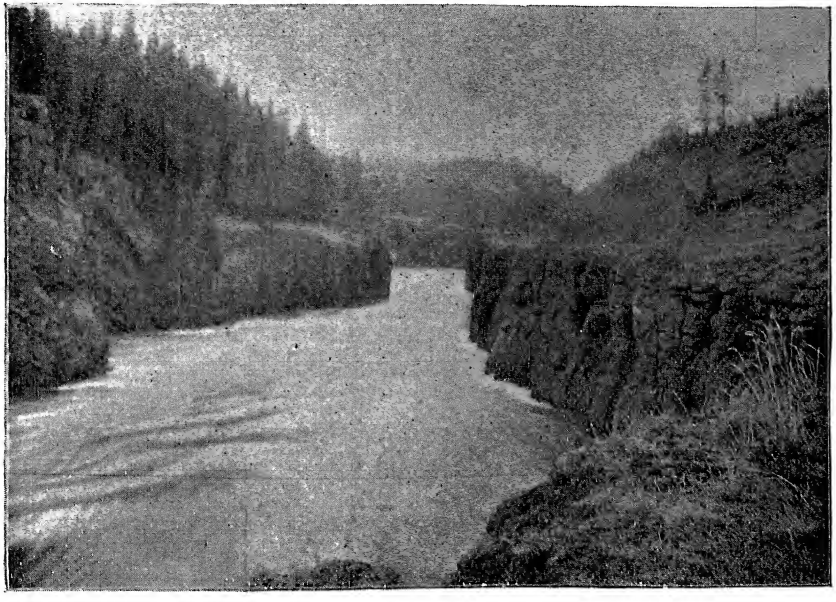
Probably in no other mining camp is so good order maintained, such respect for the life, property and the rights of others, as in the Klondyke region. So far, notwithstanding the mad rush to locate claims and the apparently fabulous richness of those claims, no murder has been committed and no theft reported. The disorder, confusion and disregard of life and the rights of others that exists in many other mining camps, where might usurps the place of right, finds no place in the Klondyke. But one attempt has been made to jump a claim and that man has regretted his error ever since and has become a good, law-abiding citizen. He was punished by being black-listed by the gold commissioner at Dawson City. This prohibits him from ever after locating or filing a claim in the entire Northwest Territory. The most severe and, under the circumstances, fearful penalty that could be imposed, for

no matter how rich a find he may make he can never claim it.

It will be many a long day indeed with this example as a warning, before the offence will be repeated in this territory. There was one other case where a man had a friend take out a claim for him, and prior to the sixty-day limit this friend took an affidavit that he had located the claim himself and found gold, thus attempting to register the claim as his own. The fraud was, however, discovered and the claim registered in the name of the rightful owner. The perpetrator of the attempted fraud was black-listed and prohibited forever from locating or filing a claim in the Northwest Territory. A frightful punishment indeed! These two are the only cases thus far, of attempted frauds in this respect. The region is patrolled by the Northwest Mounted Police, under Captain Constantine, and the force is ample to protect all in their rights, and render life reasonably secure. Offenders are promptly arrested and as promptly punished.

Mounted Police posts are rapidly being established at regular intervals, so that the entire country will be thoroughly patrolled. As another instance of the severe penalties imposed for violations of the mining laws, and rights of miners, I may mention that if any person destroys or pulls the stakes, or in any manner defaces or mutilates the boundaries of a claim, the penalty is seven years' imprisonment.

There is a magistrate at Dawson City. Offenders are arrested, taken before him and given a fair trial. There are no miners' meetings permitted, as has been the case in other mining camps in the past, where lynch law prevailed, and great injustice was often done. All disputes must be passed upon by the gold commissioner appointed by the Canadian Government, so none need fear going to the



MILES CAÑON

Klondyke because of the instability of law and order, and though of course while human nature remains as it is no Garden of Eden is possible, you are as safe in the Klondyke as elsewhere.

A large proportion of the population thus far—and so it will undoubtedly continue—is the very best element to be found in any region. Merchants, bankers, lawyers and other professional men are there in large numbers. It is for this reason that the community is so quiet and law and order so successfully maintained. For, after all, on the character of its citizens is the law and order of any community dependent.

I strongly advise all intending settlers to leave behind all firearms, as there is no necessity for them. Those who brought them have no use for them and are endeavoring to dispose of them. Rifles and shotguns are heavy and add needless weight to the outfit. No dependence can be placed on finding of game. In the past two years in my journeyings over these ranges I have seen but one moose, hence you will see the uselessness of rifles as an aid of procuring food, as dependence must be placed entirely upon provisions. These, I think, are strong reasons why rifles and shotguns should not be carried, and I would go farther and advise that even revolvers be not carried, as they are more apt to get you into trouble than any good they may do. In all my fifteen years' experience in this region I have rarely carried even a revolver, and have finally found it so unnecessary as to dispense with it entirely. As my neighbors concur in my opinion on this subject, the miner so familiar to the Californians in '49, filled with profanity and armed to the teeth, is an unknown quantity in Klondyke. At a conference of cabinet ministers held at Dawson City, July 23d, 1897, the question discussed was the customs aspect of the Yukon question. A special customs officer

was appointed for the Yukon district and two customs officers appointed for the White and Dyea passes, so that all goods going in not bought in Canada markets will have to pay full customs dues.

In view of the fact that the mining operations on United States soil are already quite extensive and quite sure to increase, I append the following despatch from Washington under date of July 26, 1897, to show that law and order will be maintained on both sides of the boundary line between the two countries.

Washington, July 26.

The President and Secretary Alger have decided to detail an army officer and a company of soldiers from the regular army for service in Alaska. The matter is yet in very indefinite shape, but details will be arranged as soon as possible in order that the soldiers may get into the vicinity of the gold country before navigation closes on the Yukon River. They will be sent to their destination *via* the Yukon River route, and the offer of one of the shipping companies on the Pacific coast to transport the men and their baggage and stores will probably be accepted.

The exact location of the camp post has not yet been determined on, but it is expected to be at Circle City. An army officer now in the field who has had experience in such matters has been invited to take charge of the company, and an answer is expected from him very soon. The detail of men who will go will be made from one of the posts in the West, but just which one is not yet finally settled on. The officials are anxious to locate the soldiers in the gold country as soon as possible, and if it can be

arranged they will be sent on the steamer sailing early in August.

In view of the recent rush of travel to the Klondyke gold fields, Secretary of the Treasury Gage has established a sub-port of entry at Dyea, Alaska. The action was taken as the result of an application to the Treasury Department by Canada for permission for Canadian vessels to enter at Dyea, Alaska, and land passengers and baggage there. Dyea is about fifty miles north of Juneau, and it was desired to save passengers the annoyance of disembarking at Juneau and awaiting another steamer for Dyea, the head of navigation on this route to the Yukon frontier.

Ottawa, July 24.

Hon. W. Paterson has been informed, in reply to his request that Dyea be made a customs post by the American Government, that such has been done.

It is also agreed to send a man with the goods over the summit where the fees could be collected at the first post in what is acknowledged to be Canadian territory. It may be that the Canadian Customs will place their officer at Dyea, when the fees could be paid there. Two officers will be sent up from Victoria, one for each of those Passes which are most utilized by parties sending goods into the Yukon—the White and the Dyea.

RATE OF TAX.

Toronto, July 28.

The Globe's Ottawa special says: "At a Cabinet Council yesterday the Yukon was again under consideration, and

it was decided that the royalty to be levied on the gold taken out of that country would be 10 per cent. on all amounts taken out of any one claim up to $500 a week, and after that 20 per cent. And in addition it must be remembered that every alternate claim is to be reserved by the Government for the benefit of the public revenue.

CHAPTER VIII.

MINING RETURNS.

In the Klondyke section, from January to April 1st, 1897, although there were only four hundred and fifty miners, there was taken out in this section alone about $4,000,000, about half of this being retained in the country, and used for purchasing fresh supplies, buying claims, or shares in claims, and in other investments.

The balance was shipped to San Francisco, being consigned either to the Government Mint or to Selby's Smelting Works, the transportation companies giving the miner a receipt for it, and charging him about two and a half per cent., which includes all insurance, and guaranteeing safe delivery to its destination.

Selby's Smelting Works at San Francisco would seem to be the best place as their charge is a trifle less than at the Government Mint. At the mint and the smelting works the gold is placed to the credit of the miner, where he can obtain the money, or it is subject to a sight draft.

As already stated, about two millions were retained in the country for investment, and many claims changed hands, as high as $60,000 or $100,000 being paid for a single claim of 500 feet.

The gold dust is valued at about $17 an ounce, Troy weight being used in measurement. The principal cur-

rency at Dawson City, however, is gold dust, which is accepted for everything. Any kind of currency, however, is accepted there.

What we know as Klondyke is known there as The Bonanza Mining District, and the Hunker's Mining District. I have asked miners who have been in Australia and California, and they say they have never seen anything like the rich returns found in the Klondyke section. I have asked miners how they were panning out on their claim, and have often had the reply, "I think I am off the pay strike, as I am only panning out $30 or $40 to the pan," —a phenomenal return in any other region than Klondyke. One week miners were getting $300 to the pan, the next week they might only get $15, $20, or $30, but they always get something.

As long ago as 1885 some profitable mining was done in this section, and on this point I quote Mr. Ogilvie. "The Stewart River was pretty well worked for the seasons of 1885–86 by about forty men, some of whom made at least $5,000 Assuming they averaged one-half that sum, we have $100,000 as their earnings. Forty Mile River, the only other stream from which any large quantity has been taken, was worked in the summer of 1887 by about three hundred men, many of whom spent only a few weeks on the river, some only a few days. The statement made by those of whom I inquired, was, that all who worked on the river for any length of time made a 'grub stake.' Putting this at the lowest value I placed on it, $450, and assuming that two hundred and fifty men made each this sum, we have $112,500 as the amount taken out on this stream. I have heard the amount placed at $130,000. All the gold taken from the other streams by prospectors would not amount to more than a few thousand dollars, so that it is probable the total amount taken out of the whole

district is in the vicinity of a quarter of a million dollars, of which about half was taken out in our territory.

"I learned that the prevailing high water interfered very much with the success of the miners in the season of '88, and that many of them left the country in the fall. It is probable, however, that a few will remain prospecting till something rich is found."

The above quotation from Mr. Ogilvie's report for that period reads very strange in view of the rich strikes made recently.

CHAPTER IX.

GAME, AGRICULTURE AND TIMBER.

THE supply of large game is very limited indeed. Very lengthy trips have been taken for hunting purposes. There are many fur-bearing animals, which include the black fox, bear, otter and mink. The fur of the black fox is specially valuable.

When I was in the fur-trading business I sold a black fox skin for $250. There is considerable small game, and rabbits are very plentiful, also geese, ducks and river-birds. The moose, caribou, musk-ox abound very much inward and toward the McKenzie Basin.

Horses and cattle are now being constantly shipped from Seattle, to be driven over the Taiya to Chicat pass. They are fed on "bunch grass." This grass is very nutritious and grown extensively. I have seen beef fattened better on it than on the farms in Northern New York. There are vast plains covered with what is called "bunch grass," and it is good fodder for horses and cattle.

Small timber is quite plentiful, such as spruce, etc., but large timber is scarce. I have often been asked how trees grow in soil that is frozen the year round. The roots spread out near the surface, adapting themselves to the climate. The large roots—tap roots—are wanting. I cut a large birch tree on one of the islands which abound in

the Yukon and found the roots in this condition, spread out flat, growing near the surface, and there were two or three sets of roots, one above the other, the lower ones partially decayed, owing to the large amount of sediment that is deposited during high water in succeeding seasons.

Fishing is good in the Yukon River and its tributaries. Salmon is very plentiful and this is the season that they are running. Grayling, lake trout and small fish are easily caught in the streams. Farm vegetables are hard to raise, but not much time is spent, still there are small farms and gardens on the small islands and garden truck is raised from the 15th of May to the 15th of September, but the two large trading companies at Dawson City carry a large stock of supplies for all the needs of the community.

The following, on the agricultural capabilities of the Yukon Basin reported by Mr. Ogilvie will be interesting.

"The agricultural capabilities of the country along the river are not great, nor is the land which can be seen from the river of good quality.

"When we consider further the unsuitable climatic conditions which prevail in the region, it may be said that as an agricultural district this portion of the country will never be of value.

"My meteorological records show over eight degrees of frost on the 1st of August, over ten on the 3d, and four times during the month the minimum temperature was below freezing. On the 13th September the minimum temperature was 16°, and all the minimum readings for the remainder of the month were below freezing.

"Along the east side of Lake Bennet, opposite the Chilkoot or western arm, there are some flats of dry gravelly soil, which would make a few farms of limited extent. On the west side, around the mouth of Wheaton River, there is an

extensive flat of sand and gravel, covered with small pine and spruce of stunted growth. The vegetation is poor and sparse, not at all what one would desire to see on a place upon which he was thinking of settling. At the lower end of the lake there is another extensive flat of sandy soil, thinly clad with small poplars and pines. The same remarks apply to this flat as to that at Wheaton River.

"Along the westerly shore of Tagish Lake there is a large extent of low, swampy flats, a part of which might be used for the production of such roots and cereals as the climate would permit. Along the west side of Marsh Lake there is also much flat surface of the same general character, on which I saw some coarse grass which would serve as food for cattle. Along the east side the surface appeared higher and terraced, and is probably less suited to the requirements of the agriculturalist. Along the head of the river, for some miles below Marsh Lake, there are flats on both sides, which would, as far as surface conformation goes, serve for farms, The soil is of much better quality than any heretofore seen, as is proved by the larger and thicker growth of timber and underbrush which it supports. The soil bears less the character of detritus, and more that of alluvium, than that seen above.

"As we approach the cañon the banks become higher and the bottom lands narrower, with some escarpments along the river. At the canon the bank on the west side rises two hundred feet and upwards above the river, and the soil is light and sandy. On the east side the bank is not so high, but the soil is of the same character, and the timber small and poor, being nearly all stunted pine.

"Between the canon and Lake Labarge, as far as seen from the river, there is not much land of value. The banks are generally high, and the soil light and sandy. At the head of the lake there is an extensive flat, partly

covered with timber, much larger and better than any seen above this point. Poplar eight and ten inches in diameter were not uncommon, and some spruce of fifteen and sixteen inches, and many of upwards of a foot in diameter, were also noticed. The soil, however, is light, and the vegetation, especially the grass, thin and poor.

Some miles down the lake an extensive valley joins that of the lake on the west side. This valley contains a small stream. Around this place there is some land that might be useful, as the grass and vegetation is much better than any seen so far.

On the lower end of the lake, on the west side, there is also a considerable plain which might be utilized; the soil in parts of it is good. I saw one part where the timber had been burned some time ago; here, both the soil and vegetation were good, and two or three of the plants seen are common in this part of Ontario, but they had not the vigorous appearance which the same plants have here.

Northward from the end of the lake there is a deep, wide valley, which Dr. Dawson has named 'Ogilvie Valley.' In this the mixed timber, poplar and spruce, is of a size which betokens a fair soil; the herbage, too, is more than usually rich for this region. This valley is extensive, and, if ever required as an aid in the sustenance of our people, will figure largely in the district's agricultural assets.

Below the lake the valley of the river is not as a rule wide, and the banks are often steep and high. There are, however, many flats of moderate extent along the river, aud at its confluence with other streams. The soil of many of these is fair.

About forty miles above the mouth of the Pelly River there is an extensive flat on both sides of the Lewes. The soil here is poor and sandy, with small open timber. At Pelly River, there is a flat of considerable extent on which

the ruins of Fort Selkirk stand. It is covered with a small growth of poplar and a few spruce. The soil is a gravelly loam of about eight inches in depth, the subsoil being gravel, evidently detritus. This flat extends up the river for some miles, but is all covered thickly with timber, except a small piece around the site of the fort.

On the east side of the river there is also a large plateau, but it is two or three hundred feet above the river, and the soil appears to be poor, judging from the thinness and smallness of the trees. This plateau seems to extend up the Pelly for some distance, and down the Yukon for ten or twelve miles. As seen from the river, it reminds one of the slopes and hills around Kamloops in British Columbia, and like them, though not well suited to agriculture, might yield fair pasturage should such ever be required.

A serious objection to it, however, for that purpose, if it is not watered on the surface by ponds, is that the river is difficult of access, as the plateau on the side towards the river is bounded by a perpendicular basalt cliff, which, without artificial arrangement, would completely bar approach to the water. This cliff is more than two hundred feet high at the confluence, and becomes lower as we descend the river, until, at the lower end, it is not more than sixty to eighty feet high.

Between Pelly and White Rivers there are no flats of any extent. At White River there is a flat of several thousand acres, but it is all timbered, and the surface of the soil is covered with a thick growth of moss, which prevents the frost ever leaving the ground. This has so preserved fallen timber and the foliage of the trees that much of it is lying on the surface nearly as sound as when it fell. On this account the vegetable mould on the gravel is thin and poor. The standing timber also bears witness to the coldness of the soil by its slow and generally small growth. A

few trees near the bank, where the sun can heat the soil, are of fair size, but further back they are generally small.

At Stewart River there is another large flat to which the same general remarks are applicable. Thence, to the site at Fort Reliance, there are no flats of any importance. High above the river in some places there are extensive wooded slopes, which, when cleared, would be well suited for such agricultural purposes as the climate would permit.

At Fort Reliance there is a flat of probably 1,500 acres in extent; but although Messrs. Harper & McQuestion lived there for some years, it appears they never made any agricultural experiments, believing that they would be futile.

At the Forty Mile River there is a flat of about four or five hundred acres in area, on which the soil is of better quality than on many of the other places mentioned. On this Messrs. Harper & McQuestion erected their dwelling and store houses. They gave it as their opinion that only very hardy roots would live through the many cold nights of the summer months, and that the season is so short that even if they survived the cold they would not attain a size fit for use.

The river is not generally clear of ice until between the 25th of May and the 1st of June, and heavy frosts occur early in September, and sometimes earlier.

At the boundary there are two flats of several hundred acres each, one on the west side, the other three miles above it on the east side. Both of these are covered with poplar, spruce and white birch, also some willow and small pine.

In making preparations for the foundations of our house at our winter quarters near the boundary we had to excavate in the bank of the river, and in an exposed place where the sun's rays could reach the surface without hin-

drance from trees or other shade we found the depth to the perpetually frozen ground to be not more than two feet. In the woods where the ground was covered with over a foot of moss the frozen ground is immediately below the moss. On this the timber is generally small, and of very slow growth, as is evident from the number of annual rings of growth. I have seen trees of only three or four inches in diameter which were upwards of one hundred and fifty years old.

It is difficult to form an estimate of the total area of agricultural land seen, but it certainly bears a very small proportion to the remainder of the country. I think ten townships, or 360 square miles, would be a very liberal estimate for all the places mentioned. This gives us 230,400 acres, or, say 1,000 farms. The available land on the affluents of the river would probably double this, or give 2,000 farms in that part of our territory, but on the most of these the returns would be meagre.

Without the discovery and development of large mineral wealth it is not likely that the slender agricultural resources of the region will ever attract attention, at least until the better parts of our territories are crowded.

In the event of such discovery some of the land might be used for the production of vegetable food for the miners; but, even in that case, with the transport facilities which the district commands, it is very doubtful if it could compete profitably with the south and east.

TIMBER FOR USE IN BUILDING AND MANUFACTURING.

The amount of this class of timber in the district along the river is not at all important. There is a large extent of forest which would yield firewood, and timber for use

in mines, but for the manufacture of lumber there is very little.

To give an idea of its scarceness, I may state that two of my party made a thorough search of all the timbered land around the head of Lake Bennet and down the lake for over ten miles, and in all this search only one tree was found suitable for making such plank as we required for the construction of our large boat. This tree made four planks 15 inches wide at the butt, 7 at the top, and 31 feet long.

Such other planks as we wanted had to be cut out of short logs, of which some, 10 to 14 inches in diameter and 10 to 16 feet long, could be found at long intervals. The boat required only 450 feet of plank for its construction, yet some of the logs had to be carried nearly 200 yards, and two saw-pits had to be made before that quantity was procured, and this on ground that was all thickly wooded with spruce, pine, and some balsam, the latter being generally the largest and cleanest-trunked.

These remarks apply to the timber until we reach the lower end of Marsh Lake. On the head of the river, near the lake, some trees of fair size, 12 to 14 inches in diameter, and carrying their thickness very well, could be got, but their number was small, and they were much scattered.

At the canon the timber is small and scrubby; below it there were a few trees that would yield planks from 7 to 10 inches wide, but they have been nearly all cut by the miners, many of whom made rafts at the head of Lake Bennet, floated down to White Horse Rapids, and there abandoned them for boats which they then built.

The great bulk of the timber in the district suitable for manufacture into lumber is to be found on the islands in the river. On them the soil is warmer and richer, the

sun's rays striking the surface for a much longer time, and more directly than on the banks.

At the confluence with the Pelly, on the east side of the river, there is a grove of spruce, from which some very nice lumber could be made, and on the islands below this much of the same class of timber exists. Near White and Stewart Rivers there is a good deal of nice clean timber, but it is small. It is said there is more good timber on Stewart River in proportion to the ground wooded than on the main river.

Between Stewart River and the boundary there is not so much surface covered with large trees as on many of the flats above it, the valley being generally narrower, and the sides steeper than higher up the river. This, of course, precludes the growth of timber.

To estimate the quantity of timber in the vicinity of the river in our territory would be an impossible task, having only such data as I was able to collect on my way down. I would, however, say that one-fourth of the area I have given as agricultural land would be a fair conjecture. This would give us two and a half townships, or ninety square miles, of fairly well timbered ground ; but it must be borne in mind that there is not more than a square mile or so of that in any one place, and most of the timber would be small and poor compared with the timber of Manitoba and the easterly part of the Northwest Territories.

At the Boundary Line I required, as has already been explained, a tree 22 inches in diameter at the ground on which to erect my transit. An exhaustive search of over three square miles of the woods there, though showing many trees of convenient size for house logs, and many for small clean planks, showed only one 18 inches in diameter at a distance of five feet above the ground.

It may be said that the country might furnish much timber, which, though not fit to be classed as merchantable, would meet many of the requirements of the only industry the country is ever likely to have, viz., mining."

CHAPTER X.

MORTALITY AND CLIMATE.

REPORTS of deaths in the Klondyke are most unreliable and would be ridiculous were they not painful to read. One report stated that there had been two thousand deaths during the winter of 1896 and 1897, when as a matter of fact there were not 1,500 people in the entire territory. The truth is there were only two deaths, one of heart disease and one a man who died on the way in, not from hardship but from natural causes. In the graveyard at Forty Mile Post, which has served for all that section for some years past, there are only between thirty and forty graves. The place is exceptionally healthy, and the mortality cannot be compared with any eastern state, fevers and pneumonia being unknown. There are no infectious diseases. A few doctors have thus far located there, but have not as much practice as if located in any large city. There are no dentists at this writing, but there is a good opening for a few.

Any one afflicted with catarrh may be recommended to go there, as the high altitude is good for them.

Twenty Sisters of Mercy at this writing have left from Lachine and Montreal, Canada, bound for Circle City, the Klondyke, and other points, to care for the sick and disabled, feeling sure that with the influx of miners their ser-

vices will be required. At Circle City there is a hospital under the charge of these Sisters. Now, as to the climate.

In the Northwestern Territory winter commences in October. The fall of snow through the winter is not excessive. I am speaking now of the mining regions. On the coast the fall of snow is very heavy, but in the mining regions two feet is considered a very heavy fall. There is very rarely more than three feet of snow at any one time. The snow is light and flaky and dry as sawdust. A hard crust does not form, as there are no winter thaws.

Travelling during the winter from near-by points is generally done altogether on snow-shoes, which are purchased from the Indians, the price for which varies from $5 to $10 per pair, according to the quality.

During the winter the thermometer sometimes goes as low as 70 degrees below zero, but this lasts but a very short period at any one time. The average temperature during the winter, I should say, was about twenty degrees below zero. The reader will, however, recollect that the altitude is very high and the air extremely dry, so that the cold is not felt so much as in sections of the State of New York, where the thermometer rarely goes as low as 30 degrees below zero. In fact I have suffered more from cold in my old home in Northern New York than I ever suffered here. I have chopped wood here in my shirt-sleeves outside my door when the thermometer was 70 degrees below zero and suffered no great discomfort,—the air was so very dry.

Winter days are very short in Dawson City, it is only two hours from sunrise to sunset. The sun rises and sets away in the south, but there is no pitch darkness. The twilight lasts all night, and the Northern Lights are very common throughout these regions.

As a school teacher in this region once quaintly put it, "At Circle City I went to school at nine o'clock in the

morning by the light of the setting moon, and returned home at noon by the light of the rising moon."

Spring opens about May 1st, and the ice on the Yukon commences to break up about the same time. The Yukon is generally clear of ice about May the 15th.

In summer time it is quite warm, the temperature frequently rising 93 degrees above. The discomfort from the heat, however, is not so much felt as might be expected on account of the dryness of the air. The rainy season is in the latter part of August and the beginning of September usually, and lasts about two or three weeks. The discomfort in summer from flies, gnats and mosquitoes is considerable.

During the summer the day is about twenty hours long, the sun rising and setting away in the north.

There has been a misapprehension of the country and from a sort of accepted conclusion that the climate on the coast and that in the interior is similar. In the interior the climate is influenced largely by the altitude of each particular district, and in consequence of the general lowering of the country beyond the sixtieth parallel, the climatic conditions necessarily are much more favorable than they are, for example, in the Cassear district, which is only just north of British Columbia.

There is a wide difference, too, in the quantities of snow that accumulate in winter on the Coast Ranges and in the interior. While the quantities are great on the Coast Ranges, the depth of snow as far down the Yukon as the Stewart River and Forty Mile Creek is inconsiderable. In his work on "Alaska and Its Resources," W. H. Dall says, "The valley of the lower Yukon is somewhat foggy in the latter part of summer, but as we ascend the river the climate improves."

The temperature of Wrangell, which is just off the

mouth of the Stikine, may be taken as fairly representa tive of the coast in these latitudes. For the interior regio there is not, unfortunately, any record of a series of ther mometer readings; but some idea of its climate may b formed from that of Fort Yukon, which is, however, situ ated far to the north, almost exactly on the Arctic circle

DR. DAWSON'S TABLE.

The mean seasonal temperature for these two stations as gathered by Dr. Dawson, is as follows:

	Wrangell.	Fort Yukon
Spring	40·4	14·6
Summer	57·1	56·7
Autumn	43·0	17·4
Winter	28·3	23·8
Whole year	42·2	16·8

In other words, the seasons are not so severe in the in terior of the gold-bearing regions as they are in some o the central provinces of European Russia, where the ther mometer descends to 31 degrees and sometimes to 50 de grees in the winter months, but rises in summer to 10 and even to 109 degrees. The rainfall in the interior, too is small, varying from sixteen to twenty-eight inches, th maximum precipitation taking place during the summe months.

I consider above readings can apply for immediat Klondyke regions.

By May 1st prospecting and new mining operation usually begin, and there are really only four months, May June, July and August, during which prospecting can b done and new mining operations commenced.

There is a popular error that mining operations can only be conducted during those four months, but I shall draw a clear distinction between prospecting and the commencement of the new operations, and the working of mines already established and being worked. Mining operations of the latter sort where the mines are already established can be conducted during the entire year.

CHAPTER XI.

COST OF LIVING AND WAGES PAID.

MANY unreliable reports have been received as to the enormous cost of living in the new gold region.

When I left there in June, 1897, board was obtainable in Dawson City from two to three dollars per day in hotels and restaurants, but many of the miners were living on their own resources at not more than $1.00 per day, and some of the men that I knew were not spending more than $250.00 a year for living expenses. Of course with the large influx of new prospectors, the rate of board and provisions will advance, but in my opinion the advance will not be excessive for the reason that the Transportation Companies will increase their facilities for bringing in supplies. This is no place for a man unless he goes ready to do hard work and suffer hardships. Of course, in any mining camp or community of any nature, there is always a number of indolent characters who live by gambling, etc. Up to June, labor was in good demand; it was almost impossible to secure hands at $15.00 per day to work in a saw mill. Miners working on claims and mechanics receive $1.50 per hour or $15.00 a day. Ordinary laborers for any kind of work, however, never receive less than $10.00 a day. If a man is economical in his living, and does not allow himself to be drawn into the gambling

saloons, he can save sufficent money in a short time to purchase an outfit and go to prospecting and locate a good claim outside of the present regions. I certainly would not recommend a person to go into the country with only sufficient money to take him there. He should have sufficient money to take him there and purchase provisions for one year, and not be dependent upon the charity of strangers. The cost of various articles at Dawson City are mentioned in the chapter under outfit for miners.

A miner does not have to be in the country long before he makes association with some other miner, and puts up his own cabin thereby reducing expenses.

CHAPTER XII.

MINERS' LUCK.

MANY of the reports received of the large finds of gold from the gold regions are not in any way exaggerated, but the claims all along the Klondyke and its various tributaries are already taken up and more than 1000 claims are staked out and in operation, and the new prospector must work for others or go on prospecting trips farther into the region and take his chance of locating new claims.

I consider the chance good if he is well supplied with provisions and enjoys a good constitution, and can suffer the hardships which must be endured in any circumstances in this new and comparatively unexplored region.

The reports already received of the finds of gold seem beyond belief but the greater part of them are actual facts, and the following came under my personal observation :—

Alexander McDonald, on Claim No. 30, Eldorado, on the Klondyke, started drifting on his claim with four men. The men agreed to work the claim on shares, the agreement being that they should work on shares by each receiving half of what they could get out. The five together took out $5,000 in twenty-eight days. The

ground dug up was found to measure but 40 square feet. This was an exceptional find. The men are of course working the claim and had 460 square feet on the claim still to work out.

People in the east or elsewhere can hardly realize what a small space a mining claim is in this vast and comparatively unexplored territory.

William Leggatt on Claim No. 13, Eldorado, together with William Gates and a miner named Shoots, purchased this claim from a miner named Stewart, and his partner, for the sum of $45,000. They did not have money to make the payment in cash, but made a first payment of $2,000 with the agreement to pay the balance of the purchase price, $43,000, prior to July 1st, 1897. They sunk a shaft and commenced taking out $1,000 per day.

They worked the pay dirt until about May 15, 1897, when they found that they had taken out $62,000, and the space of the claim worked was only 24 square feet.

A young man who went to the Klondyke recently writes that he is taking out $1,800 a day from his claim.

There are a great number of such exceptional finds that have occurred within the last six months.

On November 20, Thomas Flack, William Sloan and a man by the name of Wilkinson sunk a hole eighteen feet deep in El Dorado Creek, and struck a four-foot pay streak that went $5 to the pan, or $2.50 to the shovelful. This was not for a short time, but for weeks and weeks. They

A MINERS' CAMP

shovelled out ton after ton of dirt that was literally filled with gold, and did not know it. The news of the new strike was spread out all over the Northwest, and not only prospectors but practical mining men came to the diggings. Some capitalists saw the Flack mine, and bought out his partners, Sloan and Wilkinson, for $50,000 each, but Flack would not sell, which proved his sense, as the men who purchased his partners' interest got over $50,000 each out of the dump that the trio had discarded before they struck the pay streak at the eighteen-foot level.

There were very few practical miners there at first, but they soon began to flock in and take hold. Each day brought news of other marvellously rich strikes. The excitement grew by the hour. Not a moment was lost in the accumulation of the precious metal, and even women began to move toward El Dorado. The Yukon had completely frozen up, and three steamers—the Weare, the Bella and the Arctic—were fast in the ice. That, however, did not deter the passengers, as they came along on sledges and snowshoes. It was anything to get there with them. Two ladies, Mrs. Lippi, whose husband now has a claim valued at $1,000,000, and Mrs. Berry, picked out of a dump $6,000 each in a few days after their arrival. They found the metal by poking around in the dirt with sticks. I cite this instance to show how much valuable material was discarded in the wild rush for bonanzas. The basic principles of placer mining were in many instances utterly ignored, and men delved in the earth for nothing short of nuggets. It was the most exciting scene I have ever witnessed or read about.

When the big strike was made in El Dorado the men down at Bonanza Creek became very much dissatisfied

with gravel that went for 60 cents to $1.60 a pan, when, as a matter of fact, 5 cents a pan is considered good anywhere else, and will pay well in the clean up.

A BIG DEAL.

SAN FRANCISCO, *August* 2.—O. O. Howard, jr., the mining expert and son of Gen. O. O. Howard, telegraphed to a Wall Street syndicate on Friday: "I have secured an option on Clarence Perry's controlling interest in four best claims at Klondyke price $2,000,000, 10 per cent. to to be paid immediately: this sum to be forfeited if control isn't carried through, and balance paid in six months. Forty square feet actually produced $130,000, of which $60,000 in nuggets is here."

On the 17th ult., the steamer Portland, of the N. A. Transportation and Trading Co., arrived at Seattle, bringing a large party of miners from Klondyke via St. Michael, who brought out over $970,000 in gold dust, as that amount has been definitely located as having been shipped by the express companies and banks of Seattle, while it is possible considerably more than that was brought out, inasmuch as many individuals took away without shipment more or less gold. Several Seattle parties were among this number, one of whom, Mr. Stanley, who went into Yukon eleven months ago, brought with him $112,000 in gold. Others brought out dust in sums ranging from five to seventy or eighty thousand dollars.

These parties brought marvellous stories of the richness of the placers in that country. Some of them had taken these amounts out of a very small portion of their claims.

HAD AN EARLY TIP.

NORTH TONAWANDA, N. Y., August 2.—The news of

the great gold discoveries in the Klondyke region was told in the Tonawandas long before it became known to the world at large through the newspapers. A small, thick-set man walked into the Hotel Sheldon in this city on April 2, and registered under the name of C. F. Leavenworth, Spokane, Wash. M. B. Pierce, the proprietor of the hotel, recognized in the stranger his cousin, whom he had not seen since 1864.

As boys, Pierce and Leavenworth had been chums at their old home in Rochester, but they separated in 1864, Leavenworth entering the United States Army, while Pierce, who was then but seventeen years old, left for the coal regions of Pennsylvania.

After the two men had hugged each other, each naturally became curious to learn how the other had fared during the thirty-three years in which they had not seen each other. Both had a long story to tell, and it took several days in which to inform Pierce of the wonderful sights seen by Leavenworth. He had been around the world, and had visited every country and clime on the face of the globe. The last two years of his life, however, had been spent in the gold fields of Alaska, where he had accumulated a fortune.

"Why, Pierce," he said, in an ecstasy of enthusiasm, on the second day after his arrival, "the gold in the district where my claim is located is thicker than coal in the coal fields of Pennsylvania."

After hearing his story, Pierce began to pity his cousin. When the two men were together with other friends of the proprietor, Leavenworth would begin to talk of the gold in the Klondyke. This was not appreciated by Mr. Pierce as much as one would suppose. He did not relish the idea of other people learning of the affliction of his cousin, and he frequently cautioned him to let that Klondyke story alone.

Soon after the arrival of Leavenworth at the hotel, Colin McIntosh, of Tacoma, Washington, arrived in town. McIntosh was Leavenworth's boon companion during his trip through Alaska, and he corroborated Leavenworth's story regarding the richness of the Yukon Valley. The men were on their way back from New York to Seattle from where they were to take the first steamer to leave for the gold fields. While at the hotel in this city they exhibited small quantities of gold-dust and several small nuggets. They seemed to have money to burn, and they spent it freely. All these things finally convinced Leavenworth's friends that he was not daft.

William Kolju, a Finlander, has arrived home after an absence of 18 months, bringing with him $17,000 in gold nuggets from the Klondyke. In February last he was on the verge of starvation and had no money to buy food. A short time after this his fortune brightened. He struck pay dirt and began taking it out and packing his sluice boxes. This required arduous labor, as the pay ground lay on the bedrock beneath the frozen soil.

In May the water came in torrents. Mr. Kolju began sluicing his dirt and met with success. He at once set about cleaning up as much of his dirt as possible, taking out a little more than $17,000 in gold dust, which he brought home with him. He sold his claim for $20,000.

Prof. Lippy, formerly secretary of the Y. M. C. A, at Seattle, returned from the Klondyke with $67,000 in gold dust, and also J. O. Hestwood, of Seattle, brought out over $7,000. Quite a number of California people had sums ranging from $5,000 to $50,000.

More news of rich finds was brought into San Francisco,

by the steamer Walla Walla, on July 31. Several miners returned on the Walla Walla, one of them with a bag of Klondyke nuggets. Beside this gold, the steamer brought about $50,000 from the famous Treadwell mine on Douglass Island, and about $30,000 from the mines of the Nowell Gold Mining Company on Derner's Bay.

Another rich strike on a branch of the Klondyke is reported by Harry Fitzgerald, who came direct from Juneau.

He says that the last mail-carrier from Dawson brought news that an immense strike had been made by Curley Monroe, a Seattle man. The exact amount of gold taken out was unknown.

Fitzgerald brings the news that hundreds of tons of supplies are stacked up at Dyea waiting to be carried over the pass. It will be impossible, he says, to move all the goods before spring.

Juneau is deserted. Everybody has gone to the Yukon, and the quartz mines cannot get enough men to run their mills. Wages are $2.50 to $3 per day with board, but only fifty or sixty men are working at Treadwell, where three hundred were working six months ago.

The most interesting feature of the mail advices that come from the Klondyke will be the details of the mining strikes made on Stewart and Pelly rivers this summer. Several times since the arrival of the Klondyke miners with their nuggets from Bonanza and Eldorado creeks, stories have been afloat of still richer fields on Stewart Creek and other creeks further east. None of the returned Klondykers were able to give information on the subject. Many have mined with limited success on Stewart, Pelly and other rivers before striking rich dirt on the Klondyke tributaries.

The only hint of what has been found, comes through Surveyor Ogilvie in the following news from Ottawa, re-

ceived at Victoria, B. C.: "While the Government officials are extremely reticent as to the latest advices from Surveyor Ogilvie and Inspector Constantine, the fact has leaked out that those officials have assured their departments that scores of miners are deserting the Klondyke for a richer district further east, believed to be Stewart river, where it is said still more wonderful deposits have been discovered this spring." Pelly River is about parallel with Stewart River and enters the Yukon about forty miles higher up. Both rivers are on the right or east bank of the Yukon, and are east of Dawson City. The Pelly has also been prospected by some Klondykers with little if any success, but this is no proof that other prospectors have not been more fortunate.

One miner who has been in the country eight or ten years told me that the experienced miners about Circle City had sunk their shafts and followed what was supposed to be an infallible rule in placer mining, viz.: that when they struck the clay they abandoned their claims, considering them to be valueless, while, as he expressed it, these tenderfeet went into the Klondyke, and not knowing enough to stop digging, dug right through the clay, under which were the richest strikes. He and his companions have returned to their old diggings to work through the clay, hoping to find the same condition as at the Klondyke.

There has been found at the Klondyke what is called a false bedrock. It would appear that in the glacial action the gold was deposited on true bedrock and subsequently by either volcanic action or extraordinary glacial action, what appeared to be another bedrock was deposited on top of this gold deposit, and parties who have gone through this false bedrock have found rich pay streaks between it and true bedrock.

It is reported by parties who brought down large

amounts on the Portland that there are two million dollars in dust now in the country which will be brought out by the owners when they have occasion to come out. The security of possession of the gold dust there is absolute, and unless the persons are coming out they feel they are perfectly secure in its possession. Only such come at this season of the year—at which the most work is being done—as have to get more provisions or materials; or those who have struck extraordinarily rich claims and have left friends or relatives in possession to work the claims while they come down with the dust they have, and to make provision for their friends and relatives here.

That the country is marvellously rich in gold there can be no doubt, and if the steamers from the north via St. Michael or Dyea will on their trips in August and September confirm the stories of the miners who come out from there and bring out gold in the quantities it is expected they will, I estimate there will be no less than 50,000 people exclusive of excursionists going into Alaska next spring or the early summer.

A FEMALE GOLD HUNTER.

Pauline Kellogg, the daughter of Judge Kellogg, an old miner of Colorado, who now lives here, is about to start for the Klondyke to engage in mining on her own account. She was born at Breckinridge, Col., and lived all during her youth in an atmosphere of mining speculation. Although young and delicate, she is determined to brave the hardships of camp life on the Yukon, and is only waiting till she can start with some friends. She says:

"I am not going to look on there. I shall take up a claim, hire help, and superintend the work myself. Of course, I know it is a life of hardship. I can remember some of the things we used to go through in the cabin at Breckinridge when the country was new. There is an

element of danger in it, but I feel able to take care of myself. I have known of women in Colorado who did just this thing, and grew rich. My expectations are moderate, but I do not see why I could not do the same."

"It is stated on good authority that one claim yielded $90,000 in 45 feet up and down the stream. Clarence Berry bought out his two partners, paying one $35,000 and the other $60,000, and has taken up $140,000 from the winter dump alone. Peter Wiborg has purchased more ground. He purchased his partner's interest in a claim, paying $42,000. A man by the name of Wall has all he thinks he wants, and is coming out. He sold his interests for $50,000. Nearly all the gold is found in the creek bed on the bed rock, but there are a few good bench diggings.

Perhaps the most interesting reading in the *Mining Record* is the letters written by men in the Klondyke to friends in Juneau. Here is one from "Casey" Moran:

DAWSON, March 20, 1897.

"FRIEND GEORGE: Don't pay any attention to what any one says, but come in at your earliest opportunity. My God! it is appalling to hear the truth, but nevertheless the world has never produced its equal before. Well, come. That's all. Your friend,

"CASEY."

Burt Shuler, writing from Klondyke under date of June 5, says:

"We have been here but a short time and we all have money. Provisions are much higher than they were two years ago and clothing is clean out of sight. One of the A. C. Co.'s boats was lost in the spring, and there will be

a shortage of provisions again this fall. There is nothing that a man could eat or wear that he cannot get a good price for. First-class rubber boots are worth from an ounce to $25 a pair. The price of flour has been raised from $4 to $6 and it was selling at $50 when we arrived, as it was being freighted from Forty Mile. Big money can be made by bringing a small outfit over the trail this fall. Wages have been $15 per day all winter, though a reduction to $10 was attempted, but the miners quit work. . . . Here is a creek that is eighteen miles long, and, as far as is known, without a miss. There are not enough men in the country to-day to work the claims. Several other creeks show equal promise, but very little work has been done on the latter. I have seen gold dust until it seems almost as cheap as sawdust. If you are coming in, come prepared to stay two years at least: bring plenty of clothing and good rubber boots."

Here is a letter from another enthusiast:

KLONDYKE, May 27, 1897.

"FRIEND BILL: We landed here the 17th and went on a stampede the next day, and have just got back. I I came through the camp and saw a good many friends; I saw Burt; he has a claim on Bonanza Creek. Billy Leake has bought a claim on Eldorado; the claim is supposed to be worth a million. There are thirty-four claims on the same creek which seem to be as good. Bonanza is good, but not so rich. There are 100 claims on Bonanza which are good, and there are other creeks which give good pay. Bill, it is the best camp I ever saw. Wages are $15 a day; everything is high; gum boots are selling at $25. I look for a new strike this summer, as many men

are out prospecting, and it is the best gold country I ever saw. I wish you were here; we will make a stake if we stay with it; I will have something before winter. If you come in this fall don't start after the 15th of August; one can make more here in one year than he can in ten out there. There will be work the year round; wages may be cut to $10, but I don't think it; I can go to work at any time, and for as long as I wish at $15. It will pay to bring anything here which can be carried in; the demand is good and prices such that there is money in anything that can be brought in. Money will hardly buy claims here now, but men can often get in on a 'lay.' I know men who took 'lays' since Feb. 1, and made enough to go out with as high as $20,000 apiece.

"ANDY HENSLEY."

Oscar Ashby fears that gold will have to be demonetized, for he says in a letter dated May 18, from Circle City:

"Hereafter address all letters to Klondyke, N. W. Territory. I would have stayed here in Alaska, but when I heard of McKinley's election I pulled my freight, for I knew that meant gold. I tell you one thing, if they find a few more Eldorado and Bonanza creeks, they will have to demonetize gold. Some of the kings here are hurrying out to spend their money before that is done. However, I am going to take chances on mine."

Another letter says:

"Circle City is deserted, every one having gone to Klondyke, where the richest strike of the kind ever known in any country was made last fall. The stories told are not exaggerated. One hundred dollars to the pan is very

common. One can hardly believe it, but it is true, nevertheless.

"Eldorado is staked off into claims for eight or ten miles, and every claim so far has shown up big. One claim was sold for $100,000 three days ago. Bonanza is good also, and two or three other gulches close by show up well. Every camp in the Yukon Valley is deserted for Klondyke. Wages there are $15, while $12 is the prevailing rate here. No one wants to work for wages, but all are prospecting. This is undoubtedly the best poor man's country in the world to-day. A very hard country to live in on account of the mosquitoes and poor grub, but healthy and a show to make a ten-strike. We heard that McCullough, formerly of the Juneau Hotel, had been drowned while shooting the White Horse Rapids; don't know whether there is any truth in it, as he was behind us. A number of parties were swamped and lost their outfits, but escaped with their lives. The trip is anything but one of pleasure, as you will find if you ever make it.

"FRED BREWSTER FAY."

$80,000 IN NINETY DAYS.

San Francisco, July 24.

William Stalley, his son, F. Phiscater and C. Worden, all of whom left Seattle for the mines less than a year ago, have returned. From their claims they took out gold worth more than $80,000 in ninety days, and believe they have only just begun their work. They intend to return in March. I know that the above report is correct and the work was done on claims numbers 25 and 26 each of 500 feet.

Mr. Misner writes: "We reached Dawson about 3 o'clock in the morning, and found one of the liveliest mining camps I ever saw. There are about four thousand people here, and saloons, dance-halls and restaurants never close. The gambling tables are always crowded, and thousands of dollars change hands in a remarkably short time. Men who this time last year did not have a dollar now count their wealth by thousands. Nearly everybody has a sack of gold with him as big as a policeman's club.

The sun sinks out of sight now about 10.30 P. M. and comes up about 3 A. M. At midnight, however, it is almost as light as noonday. There is no night. At Dawson there is a little sawmill, and rough houses are going up in all directions, but for the most part it is a city of tents. On the shore of the river are hundreds of boats, and others are getting in every day.

Klondyke has not been one particle overrated. I have seen gold measured out by the bucketful. Just think of a man taking $700 out of one pan of dirt. Mrs. Wilson, wife of the Alaska Commercial Company's agent, panned $154 out of a single pan in one of the mines I am to take charge of. This is without doubt the richest gold strike the world has ever known.

With all the new men in the country many miles of new grounds will be prospected, and from the lay of the land I think other gold fields are certain to be located. Of course every foot of rich ground has an owner, so the newcomers have to depend on new strikes. Every day rumors of new discoveries reach here, which at once start stampedes, and hundreds rush out to stake claims.

Winnipeg, Man., July 28.

Commissioner Herchmer, of the North-West Mounted

Police, Regina, is here on his way to Ottawa to make arrangements for a fresh contingent of police that will leave for the Yukon early in the autumn. He strongly urges no one to go this year, but wait till March next at least. He has gathered much useful information from Inspector Strickland. The latter thinks everything of the country, and is so anxious to get back that he has volunteered to take the autumn force. The Commissioner says that already the police are building new posts at Dawson City and Stewart River, no light work, when it is pointed out that they preferred pulling down some buildings forty miles away to hunting for sufficient logs for their purpose. The wealth realized is something fabulous, Strickland declared, though the men will not say where they made it and how much it amounts to. One man in the force sold out his half share in a claim for $40,000. Sergt. Telford who is passing through this week on his way to the East for two or three months, where he will visit the principal cities, and then will leave for Ireland, is said to have struck it rich, though the figures are not given.

Tacoma, Wash., July 24.

Warren Shea, of New Whatcom, one of the lower Puget Sound towns, sends the most marvellous news yet received from the Klondyke. Shea writes to his brother, S. S. Shea, of New Whatcom, that the new boat that comes back from the Klondyke country will bring gold out in fish barrels holding about twenty-two gallons each.

"Two days after the last boat left," Miner Shea writes, "one of the stores was closed for the purpose of utilizing it as a warehouse for shipping gold dust and nuggets. So great was the quantity of gold offered for shipment that it was decided to ship it in barrels."

Shea describes the scene as most interesting. The miners gathered about and speculated on the actual value of their jars, cans and sacks of gold and told what they would do with their money when they got back to civilization. Many gambled and spent their money lavishly for trinkets and trifles, paying $10 for a pipe that could be purchased in any tobacco store in this country for less than 25 cents.

Rossland, B. C., July 27.

The Miner publishes to-day a long letter from Hart Humber to Charlie Collins, of Rossland. Humber left Rossland for Klondyke last March, on receipt of first news of discoveries there. His letter deals with all phases of life at the mines. It is dated Dawson City, June 18, and among other things says: "Our trip from Dyea was full of hairbreadth escapes, and took seventy-five days. I arrived here June 9, and started work at wages of $1.50 per hour. After two or three weeks' work with pick and shovel, same outfit will give me a job at an ounce per day. Gold dust fetches $17 per ounce here. There are at least fifty men going out to-morrow. They all arrived here broke, and are taking out from $10,000 to $100,000 each. At this season of the year the best time to travel is at night, as it is cooler and as light as day. The thermometer was 82 in the shade to-day. Mosquitoes are awful. There is more money spent at gambling and for whisky here in night than in Rossland in a month. There are more ways of making money here than any place I ever saw: drinks 50 cents; hair-cut $1; shave 50 cents. Packing to mine costs 25 cents per pound. This is the richest placer camp I ever struck. The mines are fifteen miles from Dawson City. One Montana man took out $96,000 from 45 square feet, and another $100,000 from 85 square feet. Dozens of others here have

done nearly as well. Old-timers expect to strike new diggings just as rich this winter."

MR. DRUMMOND'S WAD.

Hampton, Conn., July 31.

One of the first persons to return to New England, from a successful trip to the Alaska goldfields is J. J. Drummond of this place. Mr. Drummond brought with him a cheque for $5,000 for gold he carried to San Francisco after about a month of active work in the mines. He left a claim valued at $150,000 in the Yukon region, which he was forced to leave on account of lack of provisions.

He says that the only way the richness of the gold territory became known to the public was through this lack of food. The country has been filled with miners for many months, and they would have stayed in the gold region and kept the rich finds a secret if they had been able. But on returning to the settlements for provisions they found the stores emptied and were forced to come to the States. They, therefore, returned to their homes for the winter and spread the stories of fabulous finds which have set so many men starting for Klondyke. In the spring Mr. Drummond will go back to work his claim, and will probably be accompanied by his brother in-law.

Vancouver, B. C., July 28.

W. J. Sloan has returned from Klondyke. He was formerly a dry goods clerk, making a small stipend in Wilson's store. He went away a year ago and returns with $50,000 in gold nuggets, washed from the sand on Bonanza Creek. He is the lion of the hour and is constantly sur-

rounded by crowds attracted by the huge nuggets he carries in his pockets.

Mr. Sloan says transportation facilities are bad. He advises the British Columbia merchants to band together and get a foothold on the trade, which is diverted to the States.

Now is not the time to start, he says, March is the best month. The route by Telegraph Bay to the Skeena is the best route for Canadians. There are no rapids or canons as in the White Horse Pass. There is no doubt about the value of the Klondyke diggings, but whether they are the only ones is hard to say. There are four miles of them all taken up. They average from $300 to $2,000 per foot. Mr. Sloan's partner was the first to get a bucket down. In three bucketfuls they panned $90. It is a dreary country to winter in. There are hundreds that have not made it pay; but very big wages can be secured, an ounce a day. Any man can get work.

Dawson City is at the junction of the Yukon and Klondyke Rivers. The former river is immense and puts the Fraser to shame. There are 3,000 inhabitants. The town sprang into existence three months ago, but there are already 100 saloons. The Mounted Police keep perfect order as is seen in all Canadian mining camps.

Last winter the supply of provisions was so scarce that flour rose to $60 per sack. Gold dust and nuggets are the only medium of exchange.

A MOUNTAIN FULL OF GOLD.

Santa Rosa, Cal., July 31.

Professor Otto Fried Debendeleben declares that there is a mountain of gold in Alaska, situated at 65 degrees, 25 minutes and 11 seconds north latitude, and 172 west lon-

gitude. The mountain is called Mount Debendeleben, in honor of the professor, and was named by Professor Geo. Davidson.

It was in 1866, while he was a member of the famous Western Union Telegraph Russian extension expedition that Professor Debendeleben first saw the mountain. It is the highest peak in all that region, he says, and is full of gold.

Many scientists have been of the opinion that all the gold that crops out on this coast came some time from a great deposit in the north, and the professor thinks that mighty floods that moved everything before them carried the golden particles from the mother lode to fields further south.

It was Professor Debendeleben who prepared the report on the resources of Alaska, that went to Secretary of State Seward which Mr. Seward declared to be one of the most comprehensive documents of its character ever compiled. It was on this report that the Secretary principally relied when urging the purchase of Alaska from Russia by the United States.

Washington, July 31.

More news about big strikes in the Klondyke was received to-day by Capt. C. F. Shoemaker, chief of the revenue cutter service, in a report from Capt. E. L. Hooper, commanding the Behring Sea patrol fleet. Capt. Hooper sent some interesting information about the gold discoveries recently, which was printed in the Star. His report is dated Unalaska, July 10. This is what he has to say about the Klondyke excitement:

"The North American Trading and Transportation Company's steamer Portland arrived on the 7th from St.

Michael with about fifty miners from the Yukon as passengers. Those men were from the new mines referred to in my last report, and, like those who arrived on the Excelsior, all have gold in sums varying from $8,000 or $10,000 to over $150,000. In the aggregate the Portland had nearly the same amount as was brought by the Excelsior, about half a million. All this and much more that has not been brought down has been taken out of the mines since their discovery last August.

"One man, a Mr. Berre, of California, who last September was in debt for his outfit, took out over $150,000 while merely prospecting claim No. 40 on Bonanza Creek, which he had staked out. With part of this gold he bought an interest in three other claims, which promise to be as rich as the first one. F. Phiscater, who previous to his staking out claim No. 2 on the Eldorado, was a waiter on one of the river steamers, took out $96,000 while merely prospecting his claim, the whole of which is estimated to be worth over a million dollars. Many similar cases are reported, which indicate that the new mining region is the richest yet discovered on this continent. Of course, all this will attract a great many men, and as the means of getting provisions to the mines are but little better than last year, when with only two thousand men to provide for food was scarce and high, it will probably result in want."

PROSPEROUS IN 1886.

In 1886 few of the men in Forty Mile Creek were content with ground yielding less than $14 a day, and several of them reported to the envoys of the Canadian Government that several had taken out nearly $100 a day for a short time. With the few men at work and their exceedingly

limited facilities this little stream in 1887 gave up about $150,000 in gold. At this time the total number of miners in the entire territory of the Upper Yukon was less than two hundred and fifty and none of them wintered there.

SCHOOL TEACHER IN LUCK.

San Francisco, July 31.

The latest arrival from the Klondyke is Albert D. Gray formerly a school teacher in Grand Rapids, Mich. Mr. Gray got here, bringing $30,000 in nuggets.

He says he is the first man who went to Dawson by the Stikine River route. He predicts that this will soon be the favorite route to the gold diggings. He says that the entire Northwest is interested in the report that the Canadian Government is contemplating the building of a railway from Telegraph Creek to Lake Teslin. From this lake to Dawson City there would be clear navigation if the rocks on the Yukon 200 miles above Dawson were blasted out.

WHAT ONE BRAVE WOMAN DID.

Mrs. J. T. Wills, of this city, who says she went "through death" to seek Alaska gold, is a pioneer of the pioneers. She has pioneered it in New Mexico, Colorado and Washington. She is an Iowa woman, and reared three daughters in Missouri, where she married a man named Mercer.

Eight years ago she struck Tacoma during the big Northwestern boom, and married J. T. Wills, a gun and lock smith. As the boom subsided it became too quiet in Washington for Mrs. Wills, and she journeyed to Alaska. She was the pioneer woman gold-hunter of that section.

At first she baked bread and conducted a laundry at Circle City. Her stove would bake only two loaves at a time, but at $1 per loaf she managed to net $14 per day. She also did plain sewing for the miners, and introduced the first starched shirt into the El Dorado of the far north.

When the word came down the Yukon that there was fabulously rich pay "dirt" on the Klondyke, Mrs. Wills joined the stampede. She went in with a party of cattlemen. The trip was rough and exciting, but Mrs. Wills did not complain, and was not a burden to the men who led the spurt for the new diggings.

On a former occasion, however, she did not fare so well. On the way into the mines she became very sick, and for four days it was feared she would die. She was the only woman in a party of 140 rough miners from all parts of the world. The miners did not think of leaving her behind while life remained, but, as one of them said on returning here last spring, "If she had died we would have made a coffin of her blanket and dropped her into a crevice in the ice, and pushed forward as if nothing had happened."

When Mrs. Wills reached Dawson City she made a dash with the best of the men for a claim. But as the value of the surrounding claims came to be worth $25,000 to $100,000, claim-jumping began, and Mrs. Wills had to fight like a will-breaker for her property. It is valued at at least $250,000.

While holding on to her claim Mrs. Wills spends her leisure moments earning $15 per day as head cook for the Alaska-Commercial Company, at Dawson City.

A WONDERFUL TALE.

Captain Harry Meggs, United States army (retired), tells a wonderful tale of the discovery of gold in Alaska in

the latter part of the sixties. He was on duty in that country at that time at a point near Juneau. He says that even in those early days great lumps of gold were exhibited by natives.

"Often natives from the interior would come down wearing necklaces made of nuggets picked up from creeks in the interior," he said: "At one time there was a tribe which had been conquered by another, and a penalty was exacted. Some of the conquered tribe came over Chilkoot Pass with a certain amount of gold, which, on being weighed, was found to be short of the price demanded by the conquerors. Several chiefs were held as hostages, while the remainder of the tribe was directed to cross the mountains and procure enough to liberate them. They were gone several months, and when they came back an amount more than needed to pay the ransom was brought in. No one could ascertain whence the gold came, but from the direction in which they went and the length of time they occupied in making the trip it was believed that they went many miles inland.

"I believe that these men went into the passes of the Klondyke country and picked up by the crude means at their command the gold needed to complete the ransom. It was a topic of discussion among those who were detailed on duty at that time, and many plans were laid to procure information as to the location of the gold, but the natives kept the matter secret and would never disclose whence they derived their treasure."

CHAPTER XIII.

KLONDYKE FACTS.

KLONDYKE! Klondyke, the name that has become famous throughout the world and which was not heard of two short months ago, is taken from the Indian name "Thron-Diuck," which means "River with plenty of fish." People in the region, however, do not use the name Klondyke, as used in the East.

Gold was first discovered in the Klondyke region by a man named Henderson, August 24th, '96. Prior to that there was no civilization there whatever.

It was on August 24, when Henderson, who had been prospecting for four years in Indian Creek, a tributary of the Yukon, found himself in another little stream bed known as Gold Bottom, near the Yukon, the high water having driven him out of Indian Creek. He was prospecting around, hoping to find something as good as the ground seemed to contain. After a time he panned out a little gold and put in a sluice box or two. In a very short time he ran out of supplies and went back to Fort Ogilvie, where I was stationed, and reported the find to me. I lost no time getting myself in readiness to proceed to the spot at once, and by August 28, I had two men and four horses in Gold Bottom. In the meantime, Henderson drifted down the mouth of the Klondyke in a small boat,

and found George McCormack, an old friend of his, who was fishing for salmon. Hunting up his friends when there was anything in sight seemed to be one of Henderson's best traits. He got McCormack up to Gold Bottom, where he located a claim, prospected around a while, and started back across country for the mouth of the Klondyke River, a distance of twenty miles.

That trip was destined to play an important part in the events which followed, for through it occurred one of the big finds. McCormack took with him two Chilkat Indians, and the three men went off in the direction of Bonanza Creek, where the white man struck gravel that went $2.50 to the pan. According to the mining laws in Canadian possessions, the discoverer can locate an extra claim for himself as a reward for making the find. So McCormack took up two locations and the Indians one each. They set to work at once and took out $120 in gold in three days with little less than a pan. Then they came down to Fort Ogilvie and reported the find.

That report which was spread by McCormack, had the immediate effect of sending a thrill of excitement along the Yukon, from the headwaters down to Forty Mile and Circle City. As though by magic, the trails were sprinkled with pack mules, and the river was dotted with small craft coming up or going down to the new diggings, as the case may be. In less than ten days there were about 150 miners at work on new claims.

Strangely enough, and as if by some great good fortune, I had come down the river about the same time McCormack left Gold Bottom, and had picked out a town site where Dawson City now stands, a little more than a mile from the Bonanza Creek claims. In this respect I was very fortunate, as it now stands in the midst of what is called Bonanza Gold Mining District, and all claims are so record-

ed. As a matter of fact there is no other suitable place for a town site, and I consider myself lucky in getting hold of it. I commenced erecting the first house in that region on September 1st, 1896. Within six months from that date there were over five hundred houses erected, which included stores, supply stations, hotels, restaurants, saloons, and residences. The place immediately became a bee-hive of vigorous industry, and the miner can obtain anything he requires at Dawson City. I hold 178 acres, while the remaining twenty-two are the property of the Government. The Yukon at that point is 600 yards across and about thirty-five fathoms deep, with natural advantages for protection of craft. Dawson City is just below the mouth of the Klondyke River. I named it after Dr. Dawson, who established the boundary line that is now recognized as the correct line dividing Alaska from the Northwest Territory. It runs due north from Mount St. Elias to Point Demarcation to the 141st meridian. That, of course, cuts all the present location with the exception of those at Forty Mile out of United States possessions. There is no cause for dispute on that score at all. It is purely a Canadian section, and is under Canadian laws,

Just as soon as the rush began at Bonanza Creek the miners called a meeting, and in order that the claims be relocated and made sure of, it was decided to measure them all off with a rope and reset the stakes that defined them. Somehow or other the men selected to make the measurements slid in a forty instead of a fifty foot rope, and thus made the claims from fifty to one hundred feet short in the total. In other words they were condensed, and the intervening ground was literally grabbed. This state of affairs incensed the miners so that when they made the discovery of how the measurements were conducted, they petitioned William Ogilvie, the Dominion Land Surveyor, to come up

to Bonanza Creek at once and settle the complications that were arising. He re-surveyed the whole group of claims and the matter was then adjusted to the satisfaction of all hands.

It must be remembered that the total gold regions to-day do not extend over an area of 200 square miles from Dawson City.

There are good pay diggings at Circle City in Alaska. I know of at least twenty good claims there ; but the place has been practically deserted owing to the rush to Klondyke.

Fort Cudahy or Forty Mile Creek is deserted. There will undoubtedly be new and valuable diggings discovered next year in the Klondyke region which will create emigration to various points at present unknown.

Dr. W. H. Dall, of the National Museum of Washington, is no harebrained enthusiast and says he has spent much time in the Yukon Valley on geographical expeditions. He is a scientific expert. He has no axe to grind. He unhesitatingly accepts the reports that come from that portion of the Yukon Valley which lies just beyond the American boundary. He has known for twenty years past that gold existed in the bed of the Yukon River, though, not in large enough quantities to make mining very profitable, and he has suspected that it existed in infinitely larger quantities in the various tributaries that empty into the great river. He holds that the Klondyke and the streams that feed it represent but a very small portion of these gold yielding tributaries. In short, his opinion is that the gold-deposits exist over a length of five or six hundred miles. He scents no exaggeration in the reports that have come in so far from the comparatively small Klondyke regions.

Everything points to the fact that the gorgeous times of 1849 are to be repeated on a more prodigious scale.

The following report made by Mr. Ogilvie in January, 1896, will be of interest to the intending prospector.

CUDAHV, 8th January, 1896.

I have the honor to transmit the following interim report of my operations since I came into this territory:—

I have already sent out a short report from this place being fortunate enough to catch the boat here when I came down. In that report I made some remarks on the town sites in our territory; since then I have learned nothing of importance in that connection, the most noteworthy fact being that gold bearing quartz has been found in Cone hill which stands midway in the valley of the Forty Mile River, a couple of miles above the junction with the Yukon. The quantity in sight rivals that of the Treadwell mine on the coast, and the quality is better, so much so that it is thought it will pay well to work it even under the conditions existing here. Application has been made to purchase it, and an expert is now engaged in putting in a tunnel to test the extent. Indications in sight point to the conclusion that the whole hill is composed of this metalliferous rock. If the test corroborate this, a stamp mill will be erected next season, which will have an important bearing on the future of this country. If this venture succeeds, (as it doubtless will, for it is in the hands of parties who are able to push it) it will give permanent employment to a good many men, who with their families will form quite a community.

Apart from this I cannot see very much of a chance for speculation in buying or selling town sites; and my opinion is confirmed by the present condition of Forty Mile, which now contains very few people, the great majority of the miners re-

maining on their claims all winter, coming in only once or twice for supplies. Even in the case of the mine at Cone hill being worked, only a village would be formed around it.

Outside of all such considerations, the present applicants for Forty Mile and Cudahy town sites have either directly or indirectly occupied the present sites for years and spent thousands of dollars improving and building on them. One house erected in Forty Mile last summer is said to have cost $10,000. It would cost between two and three thousand in Ottawa. These improvements cover so much ground that even if it were decided to lay out the town site and convey it in lots the applicants would have a claim to most of the ground they ask for.

* * * * *

A couple of coal claims have been staked and applied for, which I will survey in the spring, and at the same time make an examination of the coal area where they are. I may anticipate this to a certain extent by saying that, a few days after I reported to you last fall, I went up Coal creek to search for this coal, to which I referred in my report of 1887 and 1888. I found it about 7 miles up the creek overlying a coarse sandstone and under drift clay and gravel.

The seam is 12 feet 6 inches thick. It seems to me to be a good quality of lignite. I have packed 30 to 40 pounds of the best specimens I found a few feet in, and will send them out to you in the spring, that a test may be made. That exposure has now been staked and applied for to the agent here. I judge from the position of these coal claims that we have quite an area of coal here. Both exposures furnish, as far as external features show, the same character of coal, and are about the same level, so that it is fair to assume they are in the same

seam. I will make a search in the intervening distance to determine this when I make a survey of the claims. Coal is reported in the drift on Chandindu, about 30 miles up the river from here, which would go to show that there is another area or a continuation of this one there.

On my way down the river I saw the copper-bearing vein near Thron-Diuck Creek above Fort Reliance. It does not appear to be extensive, but there are several small veins in the vicinity, and it may be that a commercially valuable deposit may be found; about 25 miles further down I found a small vein which indicates that this copper deposit is extensive.

I found a small seam of rather poor asbestos a short distance from Cudahy, and as there is quite an extensive area of serpentine around here, asbestos may yet be found of commercial value.

Very rich placer diggings are now being worked on the creeks flowing into Sixty Mile, part of which are supposed to be in Canada. I shall be able to say definitely when I produce the line that far where they are and how much we have of them.

Except in the vicinity of Forty Mile there appears to be nothing doing in the way of quartz prospecting.

Last season good placer mines were found on the Hootalinqua—Teslin of Dawson—with coarse gold in them, and there will probably be a lot of claims worked there next season. Several miners were wintering there to commence operations early in the spring. A great deal of improvement has been introduced in the working of placer diggings, which has much increased the output. The miner instead of putting in the winter months in the towns and saloons remains on his claim all winter, cutting wood in the earlier months, with which he builds fires and thaws the frozen gravel, piling it up to be washed as soon as the flow of water in the spring will permit. In this way the work is more than doubled, but as the supply

f wood is very limited except on the main river this cannot lways be done.

TIMBER.

The timber fit for buildings and lumber is fast disappearing long the river, and in a few years there will be none left near ere. There is a portable saw-mill at Fort Ogilvie—100 miles bove this—and one here, which yearly cut a good deal of umber. Were all this utilized in Canada nothing might be aid of it, but some of it goes down the river into American erritory, in addition to which a good deal of wood and logs re cut on our side and floated into Alaska where it is sold. ome men make a business of this, and on this at least the lepartment might collect dues. There is very little good tim- er on the American side of the line, hence the demand for our imber.

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The police have so far made a very favorable impression, nd the general policy of the government in connection with his district is admired.

It is probable the boundaries of the police jurisdiction may ave to be extended in the near future, for a good deal of rading is done on the head waters of the river by parties who ross the summit of the coast passes with goods from Juneau. lso the miners on the head waters and on the Hootalinqua ring in their supplies from Juneau. Now one of the traders ere—Harper—has a small steamboat named the "Beaver," vhich he got in last season for the express purpose of reaching he upper parts of the river and its affluents with supplies, and, aving paid duty on all his foreign goods, expects to be pro-

tected against smuggled goods. Should the Hootalinqua turn out as expected and promised, a police force will be required there. Harper will try hard to get up with supplies to it and Teslin Lake. I fancy he can lay down most things there as cheaply as they can be brought over the pass. It costs $14 to $15—sometimes more—per 100 pounds to transport from Taiya to the lakes, which makes flour cost $16 to $17, per hundred at the lake, while it costs or is sold here for $8. Things here are sold so low now that were I ever coming in from the Pacific again I would bring nothing in quantity but bacon, on which I might save a dollar or two a hundred, it being sold here for $30 to $35 per hundred. * * * *

I have produced the boundary line about five miles north of where it crosses the Yukon River, which is as far as I thought needful at present. I have also produced it about 7 miles south, and about the end of February will resume work and run it as far as Sixty Mile River. In connection with this I have occupied six photograph stations and developed all the plates exposed which have turned out satisfactorily. I have made a cross section measurement of the Yukon River where the boundary crosses it.

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In the vicinity of the river I have opened out a wide line in the woods which will remain visible for several years, but I erected nothing permanent on it.

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Up to date our lowest temperature has been 63° below zero. The winter has been unusually windy. Coming up here we had

to face a strong wind when 52° below zero, and frozen faces and noses where the rule of the day.

CUDAHY, 10th June, 1896.

I submit the following interim report of my operations in the Yukon District up to date.

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After my return there was some fine clear weather in January, but it was exceedingly cold, more than 60° below zero, one night 68°5 ; and as I had both my ears pretty badly frozen and could not go out in such cold without having them covered, so that I could not hear the chronometer beat, I could not observe until the end of the month when we had two fine nights—29th and 30th— mild enough for me to work.

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Having reduced all my observations, and the days having attained a reasonable length, I went into camp on the line on the 20th February, resuming work on the 22nd. But as the hill tops are all bare and from two to three thousand feet above the river we lost many days through the fierce winds.

Our progress was necessarily slow for this reason and also from the fact that I photographed from several stations, which took some time. As there were no important creeks between the Yukon and Forty Mile Rivers I did not cut the line out continuously, but left it so that any one wishing to can place himself on or very near to the line. The distance from the Yukon to Forty Mile River is a little over twenty-five miles.

In the valleys along the line the timber was thick, with much underbrush, but very little of it is of much value. Curiously enough the line kept generally in the valleys or on the sides of them, and very little of it was in the open. Going from point to point we had to follow as much as possible the hill tops and ridges. I reached Forty Mile River with this survey on the 13th March. From this point southwards there are many streams cut by the line, all of which are more or less gold-bearing and all have been more or less prospected. This necessitated my cutting the line out continuously from Forty Mile River onwards, which increased our work very much. The valleys traversed are generally upwards of 1,000 feet deep and often very steep, so that the work was exceedingly laborious.

Transporting our outfit from camp to camp was often a very hard task as the hills were so steep everything had to be packed up them, which in the deep soft snow was anything but easy. I reached a point within two miles of Sixty Mile River on the 14th April, and as I had passed all the creeks of any note, and many of them were already running water and our way lay down them, I thought it well to quit work on the line and return to Forty Mile and Cudahy, and attend to the local surveys there. The weather was fine and warm, and so much water ran in the creeks by which we had to return that we could only travel a few hours in the early morning and forenoon. Had the season been more favorable I would have visited Glacier and Miller Creeks which were generally supposed to be in Alaska, but are found to run in Canada for some distance. They are the two richest creeks yet found on the Yukon and are both tributaries of Sixty Mile River. Both creeks are fully located and worked, each claim being 500 feet along the creek and the width of the valley or creek bed. There are nearly 100 claims, all of which pay well. One on Miller Creek I understand will yield 75 to 80 thousand dollars this season,

and the owner will net, it is said, between 40 and 50 thousand dollars. He took out, it is reported, nearly half that sum last year off the same claim, and expects to do equally well next year. This is much the richest claim yet found, but all on those creeks do well. There are many other creeks in this vicinity yet to be prospected and some will, I have no doubt, pay well. Gold is found all along the valley of Sixty Mile River, and under more favorable conditions, both mercantile and climatic, it would yield good results to large enterprises. The mercantile conditions will improve; the climate is a serious difficulty but will be surmounted in time, I believe. Along the last 10 or 12 miles of the line I ran, the mountains consist principally of quartz and schists, which no doubt originally held the gold found in the valleys and doubtless hold some yet. Several men have taken to quartz prospecting, and from indications which I will dwell on later I believe we are on the eve of some magnificent discoveries.

The miners on all the creeks referred to have quietly accepted my line as the boundary *pro tem*, and as far as I can learn at present the general feeling is satisfaction that one can now know where he is. Even if the line is not final, no one doubts its being very near the final position. As far as run it is marked by cairns of stones wherever it was possible to procure them with reasonable time and labor, and is cut through the woods and blazed so that no one who wants to find it can mistake it. Another source of satisfaction to all is that they now know distances and directions. Many miners remark to me, "We now know how we are going, we can see where south is." In this high latitude in the summer months it is impossible to tell when the sun is near the meridian because its change in altitude is so little for 8 or 9 hours, consequently any point between east and west was called somewhere near south. This helps to explain much of the variance in the direction of points

as given by miners and others who have no compass or are unacquainted with the use of one and the application of the declination.

On my arrival at Cudahy I rented two cabins from the N. A. T. & T. Co., to house my men and self as I would be around here probably until I started up the river. I did this because there are no convenient camping places in the vicinity, and in the spring all the flats are like lakes along the river until well into the month of June.

After a couple of days' rest for the party, who had worked very hard, and after I had developed all my photographs, I began to attend to the local surveys, first surveying the coal claims on Coal Creek and making a chain traverse survey of the creek from the claims down to the Yukon.

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I next made a survey of the Cone hill quartz mining claim and a chain traverse survey of Forty Mile River from the claim down to the Yukon. I then went to work on the Forty Mile town site and Cudahy town site. The last I was asked to block out, which I have done. The manager, Mr. C. H. Hamilton, objected to streets 66 feet wide on such a small plot of ground (there is only about 50 acres). I read him my instructions and wrote him an official letter on the subject, but he insisted on streets only 50 feet wide and assumed all responsibility, so I did as he desired. I made him a plot of the work done on the ground, and he understands that he will have to pay the department for the service rendered in blocking as well as the original survey, and wishes a plan of it, which of course can only be prepared when I go out.

I made a complete survey of Forty Mile, locating and taking the dimensions of every house in it, and it is the worst

jumble I ever saw. I had to do this though it entailed a great deal of work, for there were so many claim holders, and there appeared to be a general distrust in the vicinity; every man wants himself on record in evidence as to his claim. I have taken some, but I have several days' work yet. I made a survey of the island for the Anglican mission, and of another island for a man named Gibson. This is in the delta of Forty Mile Creek, and he intends to make a market garden for the growth of such vegetables as the country will produce. In my final report I will deal as fully as my experience here will permit on that phase of the country's character. Many here have small gardens and are fairly successful with ordinary vegetables. I have advised many to correspond with the experimental farm at Ottawa, with a view to learning the best sort of vegetables for growth in this climate. There is an application in, and the purchase money and cost of survey paid, for 80 acres just west of Cudahy town site, which I will survey in a few days. There is also an application in for 40 acres containing a hay swamp on the east side of the river, about 2 miles below here, which I will survey before starting out. There are many other applications in, but I shall not have time to attend to them, nor have the parties asked for a survey. I think these applications are simply intended to hold the ground until the future of this region is forecasted; it certainly looks promising now. I would respectfully call the attention of the department to the fact that the services of a surveyor are urgently needed in here and will be for some years to come, and I would suggest that one be appointed to look after and take charge of all the land interests in this district. He will find plenty to do, and any work outside of departmental which he might be asked to do (and there is much of it, and will be more in the way of engineering) would help materially to pay his salary which would of course in here have to be liberal.

I have had several applications for engineering surveys, and I have told the parties I can only make these as an officer of the department, with whom they will have to settle on the basis of the time it took and the cost per day of the party and myself, should I undertake any of it, which is more than doubtful. Any surveyor so appointed will require experience in the taking of evidence and will need to be patient and attentive, for it is extremely difficult to make some of the people here understand what they want to know.

Another inconvenience is the want of a trade medium; there is very little coin, nearly all business being transacted in gold dust, which passes current at $17 per ounce troy*, but, as most of it will not assay that, there is some hardship to those taking it out, though there may be no actual loss. If enough money were sent in to pay the North-west mounted police for some time it would help for a period at least, and would emphasize the existence of Canada. What coin and bills are here are largely American.

Another important question is the treatment of the liquor business, which cannot be ignored much longer; there are several saloons in Forty Mile and one in Cudahy, yet there is no law recognizing them nor regulating them in any way. It would be almost impossible and very unpopular were any attempt made to close them. Liquor could not be kept out of the country if the whole North-west mounted police were scattered around the river.

Another subject which I have mentioned before is that of the

* The net value of the gold received by the department was found to be only $16.50 per ounce, 9 cents of which were silver. Deducting freight, insurance, mint charges and bank commission, the amount realized is reduced to $15.77. Inspector Constantine, N. W. M. P. quotes assays by the United States office at Helena, Mont., of gold from eight creeks, ranging from $14.46 for the Upper Lewes to $17.33 for Davis Creek. The average is $16.12.

timber. Large quantities of timber are being and have been cut in our territory and floated down the river to American territory, where it is used, and Canada derives no benefit. Were it used to develop our country it would matter less; in fact, I would encourage such use; but to see the best of our timber taken out without any sort of benefit to the country is, I think, worthy of some sort of attention. There is very little useful timber in the country, and much of what does exist is cut into fuel, while more of it goes beyond the boundary. In the near future we shall feel the want of it. I have spoken to the agent about it, but he has no authority to act, and, if he had, is disinclined to run up and down the river looking after it unless he has a steamer.

The merchants here who pay duty are naturally dissatisfied at the smuggling done on the upper river and ask for some sort of protection. It might be advisable to have a squad of police and an officer somewhere on the lake to look after that. I am thoroughly convinced that a road from the coast to some point on the head waters of the river, preferably by the Taku if at all practicable, would convert all our part of the river into a hive of industry. It may be said there is no competition, and any way in the present conditions of trade things cannot be sold very much cheaper at a fair profit. Once let a railroad get from some point on the coast to some point on the river so that we can have quick, cheap, and certain entrance and exit, and the whole Yukon basin will be worked. At present the long haul makes the expense of mining machinery practically prohibitive, for the cost of transport is often more than the first cost of the machine.

Assays of the Cone hill quartz are very satisfactory, and the quantity good for generations of work; were it on the coast the Treadwell mine would be diminutive beside it. Five tons of rock are being sent out from it for a mill test, and should

they prove as satisfactory as the test of a ton sent out last year, I understand the parties owning it will proceed to develop it. If it starts and proves reasonably successful there are scores of other places in the country that may yield as well. An expert here who prospects for the N. A. T. & T. Co. found a ledge last spring on the Chandindu River of Schwatka (known as Twelve-mile Creek here) and located two full claims on it. He told me the assay he made of my specimens of it was much more satisfactory than that of Cone hill, and this ledge, he claims, is where a commencement should be made in quartz milling in this country and there would be no fear of the result. He appears to be pretty well versed in mining lore, is a practical assayer—that is his profession—and he says he never saw or read of anything like it for extent in the world. He informed me there were extensive deposits of coal about 20 miles up the creek and this ledge was about 4 miles up. He has no doubt but that the copper around Fort Reliance will, with better facilities, yet be a valuable feature of the country. He showed me a lump of native copper some Indians said they found on the head of the White River but could not or would not specify where. Speaking of White River reminds me that it and Sixty Mile are very close together in the vicinity of the boundary. I was told it was only a short walk from the creeks of one to the creeks of the other, but how far from stream to stream is uncertain.

This expert is an American who has spent many years of his life in the best mining districts in the United States, and he assures me this country promises better than any he ever saw before, and as an evidence of his satisfaction with it he is going to spend the rest of his life here.

Great anxiety is felt here about a mail route and regular mail. Last winter 3 mails left the coast, one by the Taku route, one by the White Pass, and one via Taiya; the first two got here

in good time, the last, (ours by the way) did not, nor is it likely to arrive for some time—maybe never. The man in charge was badly frozen on the summit and had to turn back leaving the mail behind him and it is now probably buried in fathoms of snow. An Indian brought the mail in by the Taku and took the Slocan branch of it to Atlin lake. From what I learned of this route while up there it may be found to afford an easier way than by Teslin Lake but it has the disadvantage of landing on the head of the Lewes instead of the Hootalinqua or Teslin and so takes in the canyon and White Horse Rapids.

Last winter many of the residents and miners here talked to me about the mails and what the government intended in that direction; of course I could tell them nothing. They made their views known by getting up a petition to the Minister of the Interior.

The Alaska Commercial Company are putting a new and powerful steamer on the river, which will make four, the "Arctic," "Alice," and "Emma, large, and the "Bedon," small. there is some talk of the N. A. T. & T. Co., putting on a sister boat to the "Portus B. Weare." All are stern-wheel boats.*

From my camera stations on the boundary I saw many high mountains, some of them not less than 8,000 feet, and some I believe 10,000. Some of the prominent ones I have named after the pioneers of the country, notably one Mount Campbell after the late Mr. Robert Campbell of the H. B. Co., who established Fort Selkirk. It is about 60 miles due east of here and is a noteworthy peak in that it stands on top of an extensive well defined range, rising like a lofty pillar about 1,000 feet above the ridge. It is, far as seen, the most remarkable peak in the country. I have not made any computations yet,

* The estimates submitted at the last session of Parliament contain an item of $5,000 for the purchase of a steamer for the Mounted Police in the Yukon District.

but I do not think its summit is much if any less than 10,000 feet above the sea. No one noticed it before for the reason that it is only about 600 feet wide, is always black, and very distant from points where it can be seen around here.

* * * * * * *

CUDAHY, June 25th, 1896.

Horses could be laid down here for, I would say, about $250 per head, and the same animals ought to last the whole survey. Horses that have been in use here, packing to the mines in the summer and hauling wood in the winter for several years, are still serviceable, notwithstanding that they live only on the coarse grasses of the country. They pack 200 pounds apiece from Forty Miles River at the mouth of Moore Creek to the mines on Miller Creek (about 17 1–2 or 18 miles) and climb some very steep long hills on the way, taking 2 days with loads and one day without; all they get to eat is what they find.

* * * * * * *

My last report told you of the agent here going to Miller and Glacier Creeks and collecting fees and making entries; as he did not go west of those creeks no complications will arise, for as you will see by my sketch map they are within Canada. I may say here that one claim on Miller Creek turned out about $70,000 last winter, and several others have done very well too. So far nearly all the miners have passed here, going to Circle City (about 200 miles down) and I have no doubt many of them will keep on going.

About 100 miners are reported on the Hootalinqua this

summer. We shall probably soon have to extend law and order there.

Many here make gardens, using any seed they can get, and some are going to try grasses for fodder. I would suggest the director of the central experimental farm be asked to send in seeds of the kinds of ordinary vegetables and grasses best suited to such a climate as this, to be distributed by the agent here to those who will make a proper use of them, or for sale at cost. I am quite sure it would be of much service, and if some hints on the proper care of plants were sent in it would be more so, as most of the people in here know practically nothing of gardening or farming. Besides, it would improve the feeling among the people here towards our country and institutions and would cost the country practically nothing.

* * * * * *

CUDAHY, August 18th, 1896.

It is now certain that coal extends along the valley of the Yukon from Coal Creek for 10 or 12 miles down, and from Coal Creek up to Twelve Mile Creek, which flows into the Yukon about 30 miles above here. The latter stretch is cut off from the river by several miles of hills, as it is about 6 miles direct from the river at Coal Creek and about 18 on Twelve Mile Creek. This is the stream named Chandindu by Schwatka. There is a seam on it about 6 feet thick as reported by an expert who went in search of it. I found drift coal on the south branch of Coal Creek.

On the Cornell claim on Cliff Creek the seam is 5 feet 4 inches thick. I have sent specimens of it out. I found it necessary to refer to the different creeks so had to name them

"Shell Creek," because I found a stone with a shell impression at its mouth; "Cliff Creek," because it enters the river at the foot of a high cliff; and "Flat Creek," because it enters the river in a large flat.

Glacier Greek is turning out very well, and several good creeks have been discovered up Forty Mile in Alaska.

CUDAHY, 6th September, 1896.

I have been in hourly expectation of the Canadian mail for some days now, but it has not arrived yet. The A. C. Co.'s Steamer "Alice" came up on the fourth instant, but brought no news for me, so that I am completely in the dark as to my movements yet, and if I am to go out it is time I was on the way. I do not wish to remain here another winter unless it is absolutely necessary; more especially with my party and all its expenses. In case I go out, I will try to accompany Mr. J. Dalton over his trail from the head of Chilkat Inlet to Selkirk on the Yukon. He has made several trips over that route with horses and packs and speaks very highly of it. I will make a rough survey of it and take some photographs along the route.

I have taken copious notes of it from him, but would like to see it for myself.

I am very much pleased to be able to inform you that a most important discovery of gold has been made on a creek called Bonanza Creek, an affluent of the river known here as the Klondyke.* It is marked on the maps extant as Deer River and joins the Yukon a few miles above the site of Fort Reliance.

The discovery was made by G. W. Cormack, who worked

* The correct name is Thron Diuck.

with me in 1887 on the coast range. The indications are that it is very rich, indeed the richest yet found, and as far as work has been carried on it realizes expectations. It is only two weeks since it was known, and already about 200 claims have been staked on it and the creek is not yet exhausted: it and its branches are considered good for 300 to 400 claims. Besides there are two other creeks above it which it is confidently expected will yield good pay, and if they do so we have from 800 to 1,000 claims on this river which will require over 2,000 men for their proper working. Between Thron-Diuck River and Stewart River a large creek called Indian Creek flows into the Yukon and rich prospects have been found on it, and no doubt it is in the gold-bearing country between Thron-Diuck and Stewart Rivers, which is considered by all the old miners the best and most extensive gold country yet found. Scores of them would prospect it but for the fact that they cannot get provisions up there and it is too far to boat them up from here in small boats.

This new find will necessitate an upward step on the Yukon, and help the Stewart River region.

News has just arrived from Bonanza Creek that three men worked out $75 in four hours the other day, and a $12 nugget has been found, which assures the character of the ground, namely, coarse gold and plenty of it, as three times this can be done with sluice boxes. You can fancy the excitement here. It is claimed that from $100 to $500 per day can be made off the ground that has been prospected so far. As we have about 100 claims on Glacier and Miller Creeks, with three or four hundred in this vicinity, next year it is imperative that a man be sent in here to look after these claims and all land matters, and it is almost imperative that the agent be a surveyor. Already on Bonanza Creek they are disputing about the size of claims.

I would have gone up and laid out the claims properly, but it would take me ten or twelve days to do so, and meantime my presence might be more urgently required elsewhere.

Another important matter is the appointment of some sort of legal machinery here. Before the police came miners' meeting administered justice, collected debts, etc., etc.; now the magistrates here are expected to do all that, and when it is found that they do not it causes much dissatisfaction, and there are several cases of real hardship where parties will not pay their just debts though able to do so. If a miners' meeting were held and judgment given against the delinquent it would do no good for he would and does resist payment, and were force resorted to he would appeal to the police for protection. A continuation of this state of affairs is most undesirable in the interest of our country, for we have a reputation as a justice-administering, law-abiding people to maintain, and I would urgently press this matter on the authorities.

From the indications I have mentioned it would be seen that this corner of the North-west is not going to be the least important part of it, more especially when we consider the fact that gold-bearing quartz has been found in it at numerous places and much will no doubt be worked. It is apparent that the revenue and business of the country will more than offset the expense of administration.

I cannot here enter into the reasons for it, but I unhesitatingly make the assertion that this corner of our territory from the coast strip down and from the 141st meridian eastward will be found to be a fairly rich and very extensive mining region.

As I have already pretty fully reported on coal, I will only add that it is reported in abundance only 8 miles up the Chandindu River, where a seam over 6 feet thick has been found of the same quality as that already described.

CUDAHY, November 6th, 1896.

Your official letter informing me that negotiations for a joint survey of the 141st meridian had so far failed, and that I had better return to Ottawa for the winter, reached me here on the 11th of September. As the Alaska Commercial Company's steamer "Arctic" was then hourly expected up the river on her way to Selkirk, I thought it best to wait and go up on her to that point. Day after day passed without any sign of her; wearied of waiting, and hopeless of her arrival at all this year, I determined to start out on the 27th of September, a late date but with fair conditions feasible. On the 25th a tremendous storm of snow set in which so chilled the river that in a few days after it was choked with ice which precluded all idea of getting up the river, and it was equally hopeless down the river.

Three parties have announced their intention of starting for the outside world about the 1st prox., and I write this contemplating its transmission by one or other of these parties. For myself to think of going out in the winter is, I think, unwise, for the following reasons:—Dogs, the only means of transport, are scarce and dear, ranging from $30 or $40 to $125 apiece. Dog food, like all other food, is scarce, by reason of the poor salmon run in the river last season—practically none were caught near here—and the result is the dog owners here have to use bacon for food, which at 25 to 40 cts. per pound, is expensive.

I would require a team of eight dogs to take my outfit and my man Fawcett with our provisions and the dogs' food as far as Taiya. There the dogs would have to be abandoned or killed, as they are worthless on the coast, except to parties coming in here early in the season. Starting from here say December 1st, it would be February before I reached Ottawa,

and during 35 or 40 days of this time we would be exposed to much cold and hardship and some hazard from storms.

The journey has been made, and I would not hesitate to undertake it were things more reasonable here and dog food plentiful, but it would take at least $1,000 to equip me with transport and outfit, which sum, I think, I can expend more in the interests of the country by remaining here and making a survey of the Klondak of the miners—a mispronunciation of the Indian word or words "Thron-dak" or "diuck," which means plenty of fish, from the fact that it is a famous salmon stream. It is marked Tondak on our maps. It joins the Yukon from the east, a few miles above the site of Fort Reliance, about 50 miles above here. As I have already intimated, rich placer mines of gold were discovered on the branches of this stream. The discovery, I believe, was due to the reports of Indians. A white man named George W. Cormack, who worked with me in 1887, was the first to take advantage of the rumors and locate a claim on the first branch, which was named by the miners Bonanza Creek. Cormack located late in August, but had to cut some logs for the mill here to get a few pounds of provisions to enable him to begin work on his claim. The fishing at Thron-Diuck having totally failed him, he returned with a few weeks' provisions for himself, his wife and brother-in-law (Indians) and another Indian in the last days of August, and immediately set about working his claim. As he was very short of appliances he could only put together a rather defective apparatus to wash the gravel with. The gravel itself he had to carry in a box on his back from 30 to 100 feet; notwithstanding this, the three men working very irregularly, washed out $1,200 in eight days, and Cormack asserts with reason that had he had proper facilities it could have been done in two days, besides having several

hundred dollars more gold which was lost in the tailings through defective apparatus.

On the same creek two men rocked out $75 in about four hours, and it is asserted that two men in the same creek took out $4,000 in two days with only two lengths of sluice boxes. This last is doubted, but Mr. Ladue assures me he weighed that much gold for them, but is not positive where they got it. They were new comers and had not done much in the country, so the probabilities are they got it on Bonanza Creek. A branch of Bonanza named Eldorado has prospected magnificently, and another branch named Tilly Creek has prospected well ; in all there are some four or five branches to Bonanza which have given good prospects. There are about 170 claims staked on the main creek, and the branches are good for about as many more, aggregating say 350 claims, which will require over 1,000 men to work properly.

A few miles farther up Bear Creek enters Thron-Diuck, and it has been prospected and located on. Compared with Bonanza it is small, and will not afford more than 20 or 30 claims, it is said. About 12 miles above the mouth Gold-bottom Creek joins Thron-Diuck, and on it and a branch named Hunker Creek (after the discoverer) very rich ground has been found. One man showed me $22.75 he took out in a few hours on Hunker Creek with a gold pan, prospecting his claim on the surface, taking a handful here and there as fancy suggested. On Gold-bottom Creek and branches there will probably be 200 or 300 claims. The Indians have reported another creek much farther up, which they call "Too much gold creek," on which the gold is so plentiful that, as the miners say in joke, "you have to mix gravel with it to sluice it."

From all this we may, I think, infer that we have here a district which will give 1,000 claims of 500 feet in length each.

Now, 1,000 such claims will require at least 3,000 men to work them properly, and as wages for working in the mines are from 12 to 15 dollars per day without board, we have every reason to assume that this part of our territory will in a year or two contain 10,000 souls at least. For the news has gone out to the coast and an unprecedented influx is expected next spring.* And this is not all, for a large creek called Indian Creek joins the Yukon about midway between Thron-Diuck and Stewart Rivers, and all along this creek good pay has been found. All that has stood in the way of working it heretofore has been the scarcity of provisions and the difficulty of getting them up there even when here. Indian Creek is quite a large stream and it is probable it will yield five or six hundred claims. Further south yet lies the head of several branches of Stewart River on which some prospecting has been done this summer and good indications found, but the want of provisions prevented development. Now gold has been found in several of the streams joining Pelly River, and also all along the Hootalinqua. In the line of these finds farther south is the Cassiar gold field in British Columbia ; so the presumption is that we have in our territory along the easterly water-shed of the Yukon a gold-bearing belt of indefinite width, and upwards of 300 miles long, exclusive of the British Columbia part of it. On the westerly side of the Yukon prospecting has been done on a creek a short distance above Selkirk with a fair amount of success, and on a large creek some 30 or 40 miles below Selkirk fair prospects have been found ; but, as before remarked, the

* A feature of this year's immigration is that it includes many women and children. The correspondent of a western paper, writing from the Chilkoot pass at the beginning of last month, says. "To go along the trail, one would think the people were bound for a farming country, there are horses, ploughs, wheelbarrows, three mowing machines, coops of chickens, etc."

difficulty of getting supplies here prevents any extensive or extended prospecting.

Dalton informed me he had found good prospects on a small creek nearly midway between the coast range and Selkirk in his route. His man showed me some coarse gold, about a dollar's worth, he found on the head of a branch of the Altsek River near the head of Chilkat Inlet, which is inside the summit of the coast range and of course in our territory. From this you will gather that we have a very large area all more or less gold-bearing and which will all yet be worked.

Good quartz has been found in places just across the line on Davis Creek, but of what extent is unknown as it is in the bed of the creek and covered with gravel. Good quartz is also reported on the hills around Bonanza Creek, but of this I will be able to speak more fully after my proposed survey. It is pretty certain from information I have got from prospectors that all or nearly all of the northerly branch of White River is on our side of the line, and copper is found on it, but more abundantly on the southerly branch of which a great portion is in our territory also, so it is probable we have that metal too. I have seen here several lumps of copper brought by the natives from White River, but just from what part is uncertain. I have also seen a specimen of silver ore said to have been picked up in a creek flowing into Lake Bennet, about 14 miles down it, on the east side.

I think this is enough to show that we may look forward with confidence to a fairly bright future for this part of our territory.

When it was fairly established that Bonanza Creek was rich in gold, which took a few days, for Thron-Diuck had been prospected several times with no encouraging result, there was a great rush from all over the country adjacent to Forty Mile. The town was almost deserted ; men who had been in a

chronic state of drunkenness for weeks were pitched into boats as ballast and taken up to stake themselves a claim, and claims were staked by men for their friends who were not in the country at the time. All this gave rise to such conflict and confusion, there being no one present to take charge of matters, the agent being unable to go up and attend to the thing, and myself not yet knowing what to do, that the miners held a meeting, and appointed one of themselves to measure off and stake the claims, and record the owners' names in connection therewith, for which he got a fee of $2, it being of course understood that each claim holder would have to record his claim with the Dominion agent and pay his fee of $15.

At the same meeting they discussed our law on mining, and discovered, as they thought, that it was very defective. They appointed a committee to wait on the agent and ask him to ratify their course in appointing the surveyor and recorder to act *pro tem* on the creek and to forward their views on the law to the department at Ottawa. Now, it appears to me that a good deal of fault of the law as they found it lay in the fact that they did not read it all in its proper connection; and because the printed law did not start out from a given point and detail consecutively just what was to be done under every possible contingency that might arise under that heading they thought it defective. I believe this to be the case because I have never had any difficulty in explaining any case that has been submitted to me for an opinion, and there have been a good many.

The miners as a rule are dissatisfied with the claims laid out for them by their own surveyor appointed as I have already intimated, and many of them are claiming for a remeasurement now that they know that I am going to make a survey of the creeks. In fact many of them thought that a survey of the

creeks necessarily meant a survey and adjustment of the claims, and it took me some time to correct that impression. I made them understand that as the claims had been laid out by their own act and had been approved of by the agent I could not interfere without the consent and approval of all the original parties to the act, and they would have to meet and discuss the question and determine whether they would have them adjusted or not. If they decide to have it done I made them understand they would have to assist me at work as I passed along. If they do not require it I will take the necessary steps to enable me to plot very closely where every claim is. I may make a good deal of the survey by photography as I have about ten dozen good plates yet. In any case I will occupy several photo stations to enable me to give some idea of the mountain ranges around—if any—and supplement my views from the boundary last winter. As soon as this work is done all my men will take their discharge, Adam Fawcett going into the service of the Alaska Commercial Company, and all the rest mining.

If you want any further surveys made in here men will have to be sent in to do it, for men cannot be had here for less than from $5 to $10 per day. Any man sent in for survey purposes will require to bring a good canoe with him, say 19 feet long and 44 inches wide, and 18 to 20 deep. Such a canoe will bring in 5 or 6 men and their stock of provisions for the trip. By the time they would arrive here provisions will be plentiful, for the boats will then be up from Circle City where two of them are probably wintering. A party crossing the summit early in June would just about find the lakes open for the run down. You might warn any such party that they had better run no risk at the Canon, White Horse and Five Fingers. The Canon is not dangerous, but there is a good portage past it. The rapids between it and the White Horse are rough in high

water but with care are safe. A great many large boats run the White Horse, but most of them take more or less water; many fill altogether, and the owners are often drowned; in any case they lose all their effects if they do escape. A careful estimate of those drowned in 1895 places the number at 13, a large percentage, I think of those who tried it. The Five Fingers are at some stages of the water uncertain. Last time I came down I found it very nice on the left side—no danger at all, while boats passing the right side took in water. In every case the party in charge will do well to carefully examine beforehand all the points named. Should you deem it advisable for myself to return early in the summer, I will have to make my way around by the mouth, as I will have no men to help me up stream, and no one will be ascending the river until near September, and indeed very few do at all now. Any party coming in would reasonably be expected in before I started down, and I could confer with them on the work to be done should you deem it advisable to do so.

In the course of a year I believe coal will supersede wood for fuel, which will relieve the demand as far as the towns and villages are concerned; but mining interests will require a lot of fuel where coal cannot be taken.

The traffic in liquor will have to be taken hold of and regulated at once; it is here now and cannot be kept out by any reasonably practical means. The majority—the great majority of miners—will have it, and all the more will their predilection be if it is attempted to stop the entry of it.

In my opinion it is imperative that this business be brought under control at once, or it may develop phases that will be at least annoying in the near future.

I have in previous reports intimated that some sort of legal machinery is now absolutely necessary for the trial of cases of contract, collection of debts and generally the judicial interests

JOSEPH LAUDE'S HOUSE, SIXTY MILE POST

of the country. There are several cases of hardship now for the want of a proper court.

If some sort of court to satisfy the necessities of the people in business here is not at once established serious inconvenience will result. The officer appointed will require to be a hale vigorous person, for it is probable he will have to make journeys of considerable length across unoccupied country, in the discharge of his duty.

There have been several applications for land in the vicinity of the mouth of the Thron-Diuck, and Inspector Constantine has selected a reserve for government purposes at the confluence of that stream with the Yukon 40 acres in extent.

A court or office of record in real estate transactions will require to be opened here at once. A recorder was appointed in Forty Mile and a plot made in 1884. In anticipation of my going out this fall I got a meeting held of the property owners and had them hand the records over to me for the information of the department. They are in my possession yet, and I will take them out with me when I go. They are rather crude in form and require an initiate to understand them. I act as recorder *pro tem.*

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Before closing I may say that every report that comes in from Bonanza Creek is more encouraging than the last. Prospecting has only begun, and up to date of mailing, November 22d, very rich prospects have been found on the few claims prospected on: from one dollar to the pan of dirt up to twelve dollars are reported and no bed rock found yet. This means from $1,000 to $12,000 per day per man sluicing.

The excitement is intense but at this season of the year it is naturally very local.

I expect a mail will be starting from here in January and I will try and send out a short report by it embracing events up to date.

Cudahy, 9th December, 1896.

A mail left here for the outside on the 27th ultimo by which I sent you an interim report, which will probably reach you in January. From it you will learn how I came to be caught in the country and why I have not attempted to get out in the winter. As you are as likely to get that report as you are this one, I refrain from repeating more here than to say that should it be necessary for me to go out before summer I will try and get out by dog team, starting in the last of February or early in March when the days are long and the weather mild, getting out say early in May.

Since my last the prospects on Bonanza Creek and tributaries are increasing in richness and extent until now it is certain that millions will be taken out of the district in the next few years.

On some of the claims prospected the pay dirt is of great extent and very rich. One man told me yesterday that he washed out a single pan of dirt on one of the claims on Bonanza and found $14.25 in it. Of course that may be an exceptionally rich pan, but $5 to $7 per pan is the average on that claim it is reported, with 5 feet of pay dirt and the width yet undetermined, but it is known to be 30 feet even at that: figure the result at 9 to 10 pans to the cubic foot, and 500 feet long; nearly $4,000,000 at $5 per pan—one-fourth of this would be enormous.

Another claim has been prospected to such an extent that it is known there is about 5 feet pay dirt averaging $2 per pan and width not less than 30 feet. Enough prospecting has

been done to show that there are at least 15 miles of this extraordinary richness; and the indications are that we will have 3 or 4 times that extent, if not all equal to the above at least very rich.

I think the department should get large posters printed on which shall be shown the sections of the law governing the location and recording of quartz and placer mines, the extent of each, the duties of miners, in both cases, and the rulings of the department on the questions I have submitted, with the penalties attached to offences against the law. Some of these should be printed on stout paper or parchment capable of standing exposure to the weather, and posted at every important point in the country so that there may be no excuse hereafter for ignorance.

A large number of copies of the Mining Act, Land Act, and timber and hay lands regulations should also be sent in.

As to the extent of mining districts they should I think be made large, and section 21 amended to enable a man who has located a claim which does not pay a reasonable return on outlay the first season after his claim has been prospected, to make a second location in the same locality or district provided he can find one in it. The agent would have to determine whether or not he had expended the proper amount of labor on his claim to get reasonable returns; this I know opens the door for a lot of trouble and may be fraud, but on the other hand a great many worthy men suffer from the want of some such regulation, and as very few would be in a position to take advantage of such a provision until after their second season, there would hardly be anything left for them to take. Enterprising industrious men who would work almost continuously might get some benefit—probably would—but no others, so such a regulation could not do very much harm and might help some deserving people. As it is now men stake claims on

nearly every new find, some having several claims in the Thron-Diuck locality. They know, I believe, that they will not be able to hold them, but as the localities are not yet clearly defined they can hold on to them for a while and finally by collusion with others acquire an interest in them.

The miners here are I understand getting up a petition to the Minister asking for aid in opening a way from the south and building along it shelter for winter travellers, with suitable supplies scattered along.

As it is now a winter's trip out from here is on account of the long haul and want of shelter tedious and hazardous, and their representations are worthy of consideration.

The following letters written so far back as January will prove most interesting.

Cudahy, 11th January, 1897.

The reports from the Klondyke region are still very encouraging; so much so that all the other creeks around are practically abandoned, especially those on the head of Forty Mile in American territory, and nearly one hundred men have made their way up from Circle City, many of them hauling their sleds themselves. Those who cannot get claims are buying in on those already located. Men cannot be got to work for love or money, and development is consequently slow; one and a half dollars per hour is the wages paid the few men who have to work for hire, and work as many hours as they like. Some of the claims are so rich that every night a few pans of dirt suffices to pay the hired help when there is any: as high as $204 has been reported to a single pan, but this is not generally credited. Claim owners are now very reticent about what they get, so you can hardly credit anything you hear; but one thing is certain we have one of the richest mining areas ever

found, with a fair prospect that we have not yet discovered its limits.

Miller and Glacier Creeks on the head of Sixty Mile River, which my survey of the 141st meridian determined to be in Canada, were thought to be very rich, but they are poor both in quality and quantity compared with Klondyke.

Chicken Creek on the head of Forty Mile, in Alaska, discovered a year ago and rated very high, is to-day practically abandoned.

* * * * * * *

Some quartz prospecting has been done in Klondyke region, and it is probable that some good veins will be found there. Coal is found on the upper part of Klondyke; so that the facilities for working it if found are good and convenient.

* * * * * * *

Cudahy, 23d January, 1897.

I have just heard from a reliable source that the quartz mentioned above is rich, as tested, over one hundred dollars to the ton. The lode appears to run from 3 to 8 feet in thickness and is about 19 miles from the Yukon River. I will likely be called on to survey it, and will be able to report fully.

Placer prospects continue more and more encouraging and extraordinary. It is beyond doubt that 3 pans on different claims on Eldorado turned out $204, $212, and $216; but it must be borne in mind that there were only three such pans, though there are many running from $10 to $50.

* * * * * * *

I have been repeatedly asked what I think of the present rush to the gold regions, and I have to say that I regret it exceedingly. For this season of the year, I think it very bad indeed, and that there will be a great amount of hardship and suffering. I do not recommend any one to attempt to make the trip until March 15.

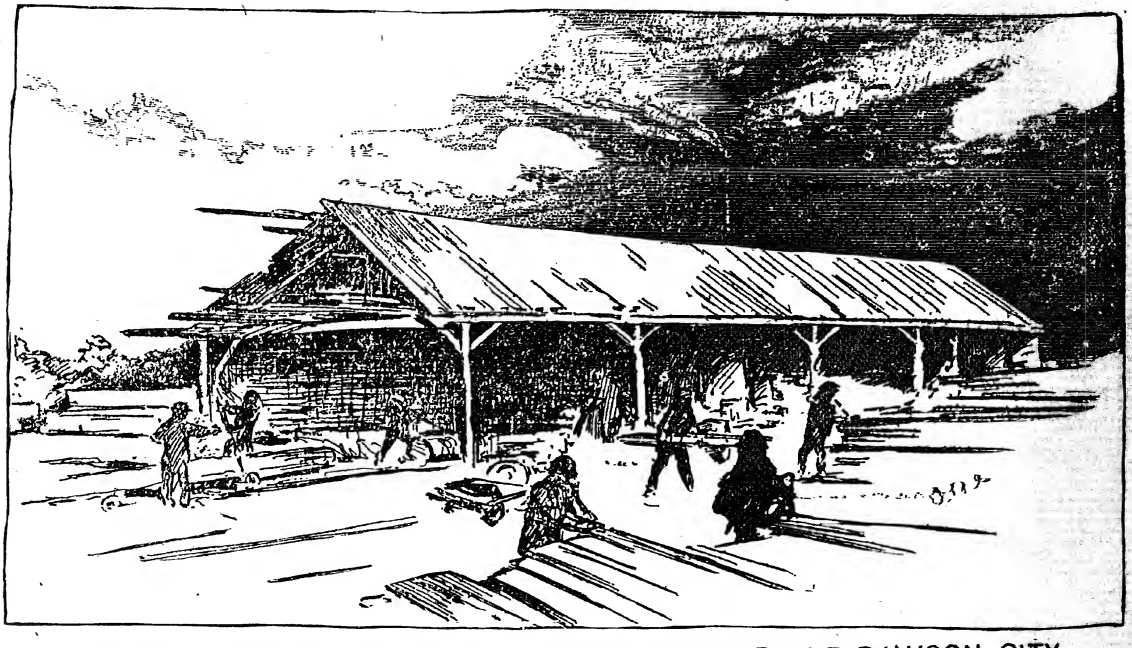
There is unquestionably room for a great many people in that district, but already too many have left for the hard winter trip that must be taken before Dawson City can be reached. I have made the trip many times and know whereof I speak, and shall certainly not attempt to return till after March 1st, 1898.

Dawson City is now the most important point in the new mining regions. Its population in June, 1897, exceeded 4,000; by June next it cannot be less than 25,000. It has a saw-mill, stores, churches, of the Presbyterian, Baptist, Methodist and Roman Catholic denominations. It is the headquarters of the Canadian Northwest Mounted Police, *and perfect law and order is maintained.*

It is at Dawson that the prospector files his claims with the Government Gold Commissioner, in the recording offices.

Dawson faces on one of the banks of the Yukon River, and now occupies about a mile of the bank. It is at the junction of the Klondyke Creek with the Yukon River. It is here where the most valuable mining claims are being operated on a scale of profit that the world has hitherto never known. The entire country surrounding is teeming with mineral wealth.

Copper, silver and coal can be found in large quantities, but little or no attention is now being paid to these valuable minerals, as every one is engaged in gold-hunting and working the extraordinary placer mining claims already located.



SAWMILL OWNED BY JOSEPH LADUE, FOUNDER OF DAWSON CITY.

The entire section is given up to placer mining. Very few claims had been filed for quartz mining. The fields of gold will not be exhausted in the near future. No man can tell what the end will be. From January to April, 1897, about $4,000,000 were taken out of the few placer claims then being worked. This was done in a territory not exceeding forty square miles. All these claims are located on Klondyke River and the little tributaries emptying into it, and the districts are known as Big Bonanza, Gold Bottom and Hunker.

I have asked old and experienced miners at Dawson, who mined through California in Bonanza days, and some who mined in Australia, what they thought of the Klondyke region, and their reply has invariably been: "The world never saw so vast and rich a find of gold as we are working now."

Dawson City is destined to be the greatest mining centre in the history of mining operations.

The entire country is teeming with mineral wealth. Copper, silver, as well as coal, can be found in large quantities but little or no attention is being paid at present to these minerals, as everybody's mind is bent on getting gold.

When mining operations commence on coal it will be specially valuable for steamers on the various rivers and greatly assist transportation facilities.

In the next few years there will certainly be recorded the most marvellous discoveries in this territory usually thought to be only a land of snow and ice and fit only to be classed with the Arctic regions.

It is marvellous to state that for some years past we have been finding gold in occasional places in this territory, but from the poverty of the people no effort was made to prospect among the places reported.

It is my belief that the greatest finds of gold will not be

made in this territory. It is safe to say that not 2 per cent. of all the gold discovered so far has been on United States soil.

The great mass of the work has been done on the Northwest territory which is under the Canadian Government.

It is possible, however, that further discoveries will be made on American soil, but it is my opinion that the most valuable discoveries will be further east and south of the present claims, and we would advise prospectors to work east and south of Klondyke.

From the very clear map shown in this work and which takes in the present gold regions, it will be seen that Dawson City is at the junction of the Klondyke River, marked on the map "Thron-Diuck."

The mining claims commence within 2½ miles from Dawson City on the Klondyke and follow the stream on both sides to "Too Much Gold Creek." All the tributary streams on the Klondyke such as "Too Much Gold Creek," Hunker's Creek, Gold Bottom, Last Chance, and Bear Creek, Bould's Bonanza, and Eldorado are now being worked by the miners.

The richest of these is Eldorado, Gold Bottom, Hunker and "Too Much Gold Creek." All of them, however, are exceptionally rich for placer mining. It is reported that the least known as yet of these, "Too Much Gold Creek" will probably be the most valuable in the region. It is the most distant from Dawson City.

THE TOO-MUCH-GOLD RIVER.

Which the Indians report to be situated beyond, and to be far richer than the Klondyke.

FAR up the stern-precipiced Klondyke,
In the Arctic drear, we are told,
There speeds a mysterious river,
"The River of Too Much Gold."

O say, ye powers of darkness!
  Did the Yukon Indians dream
The longing they roused in our heart-chords
  When they named us that hidden stream?

There once was an El Dorado
  Men crazed their lives to behold;
But what was the merely Golden
  To the River of Too Much Gold?

O, if we could stand on its border,
  And after our sacks were distent,
Kick round us still beaches of nuggets,
  Would we feel we could then be content?

Would we feel, as we shouldered our million,—
  Pledge of pleasures ten thousand fold,
That even then this river
  Was a River of Too Much Gold?

Or when will the heart of mortal
  Be ready to cry "Enough!"
And what is the use of the struggle
  For the "stuff" if it does not stuff?

But however it be, I am longing
  As though it would free me from care,
For the banks of that Arctic river,
  And a little of what is there.

W. D. LIGHTHALL.

APPENDIX.

Excerpts from the Mining Laws of the Northwest Territories.

DEFINITION OF TERMS USED IN MINING.

"Mine," "placer mine," and "diggings" shall be synonymous terms and shall mean any natural stratum or bed of earth, gravel or cement mined for gold or other precious minerals:

"Placer claim" shall mean the personal right of property or interest in any placer mine; and in the term "mining property" shall be included every placer claim, ditch, or water right used for placer mining purposes, and all other things belonging thereto or used in the working thereof. Placer claims shall be divided into creek diggings, bar diggings, dry diggings, bench diggings, and hill diggings:

"Creek diggings" shall mean any mine in the bed of any river, stream or ravine, excepting bar diggings:

"Bar diggings" shall mean any mine over which a river extends when in its flooded state:

"Dry diggings" shall mean any mine over which a river never extends:

"Bench diggings" shall mean any mine on a bench, and shall, for the purpose of defining the size of a claim in bench diggings, be excepted from "dry diggings:"

"Hill diggings" shall mean any mine on the surface of a hill, and fronting on any natural stream or ravine:

"Streams and ravines" shall include all natural water-courses, whether usually containing water or not, and all rivers, creeks and gulches:

"Ditch" shall include a flume, pipe, race, or other artificial means for conducting water by its own weight, to be used for mining purposes:

"Ditch head" shall mean the point in a natural water-course or lake where water is first taken into a ditch:

"Free miner" shall mean a person, or joint stock company, or foreign company named in, and lawfully possessed of, a valid existing free miner's certificate, and no other:

"Legal post" shall mean a stake standing not less than four feet above the ground, and squared or faced on four sides for at least one foot from the top, and each side so squared or faced shall measure at least four inches on its face so far as squared or faced, or any stump or tree cut off and squared or faced to the above height and size:

"Record," "register," and "registration," shall have the same meaning, and shall mean an entry in some official book kept for that purpose:

"Record," when used without qualifying words showing

that a different matter is referred to, shall be taken to refer to the record of the location of a placer claim :

"Full interest" shall mean any placer claim of the full size, or one of several shares into which a mine may be equally divided :

"Close season" shall mean the period of the year during which placer claims in any district are laid over by the Gold Commissioner of that district :

"Cause" shall include any suit or action :

"Judgment shall include "order" or "decree" :

"Real estate" shall mean any placer mineral land held in fee simple.

MISCELLANEOUS REGULATIONS.

1. The Minister of the Interior shall, from time to time, as he may think fit, declare the boundaries of mineral and mining districts, and shall cause a description of the same to be published in the *Canada Gazette*.

2. The Minister of the Interior may direct mineral and mining locations to be laid out within such districts wherever, from report of the Director of the Geological Survey, or from other information, he has reason to believe there are mineral deposits of economic value, and may sell the same to applicants therefor, who, in his opinion, are able and intend in good faith to work the same; or, he may from time to time, cause the said locations to be sold by public auction or tender. Such sales shall be for cash, and at prices in no case lower than those prescribed for locations sold to original discoverers, and shall otherwise be subject to all the provisions of these Regulations.

3. The Minister of the Interior may grant to any person or persons who have a mining location and are actively developing the same, an additional location adjacent to and not exceeding it in area, provided the person or persons holding such location shall show to the satisfaction of the Minister of the Interior that the vein or lode being developed on the location will probably extend outside of either of the vertical lines forming the side boundaries of the location before it has reached the depth at which it can be profitably mined.

4. Persons desirous of obtaining quarries for stone on vacant Dominion Lands may do so under these Regulations; but the Minister of the Interior may require the payment of a royalty not exceeding five per cent. on account of the sales of the product of such quarries, or the land may be sold not subject to such royalty at such price as may be determined.

5. Returns shall be made by the grantee, sworn to by him, or by his agent or other employé in charge of the mine, at monthly or other such intervals as may be required by the Minister of the Interior, of all products of his mining location and of the price or amount he received for the same.

6. The Minister of the Interior shall have the power to summarily order any mining works to be so carried on as not to interfere with or endanger the safety of the public, any public work or highway, or any mining property, mineral lands, mining claims, bed-rock drains or flumes; and any abandoned works may, by his order, be either filled up or guarded to his satisfaction, at the cost of the parties who may have constructed the same, or in their absence upon such terms as he shall think fit.

7. The Superintendent of Mines, acting under instructions to be from time to time issued by the Minister of the Interior, shall cause to be laid out, at the expense of the person or persons applying for the same, a space of ground for deposits of leavings and deads from any tunnel, claim or mining ground.

FORFEITURE.

8. In the event of the breach of these Regulations, or any of them by any person holding a grant for Quartz or Placer Mining from the Crown other than Crown Patents, or from the Minister of the Interior, or from any duly authorized officer of Dominion Lands, such right or grant shall be absolutely forfeited *ipso facto*, and the person so offending shall be incapable thereafter of acquiring any such right or grant, unless for special cause it is otherwise decided by the Minister of the Interior.

RIGHTS AND DUTIES OF MINERS.

1. The forms of application for a grant for placer mining, and the grant of the same, shall be those contained in forms II and I.

2. The entry of every holder of a grant for placer mining must be renewed and his receipt relinquished and replaced every year, the entry fee being paid each time.

3. No miner shall receive a grant of more than one mining claim in the same locality, but the same miner may hold any number of claims by purchase, and any number of miners may unite to work their claims in common upon such terms as they may arrange, provided such agreement

be registered with the Agent, and a fee paid for each registration.

4. Any miner or miners may sell, mortgage, or dispose of his or their claims, provided such disposal be registered with, and a fee of two dollars paid to the Agent who shall thereupon give the assignee a certificate.

5. Every miner shall, during the continuance of his grant, have the exclusive right of entry upon his own claim, for the miner-like working thereof, and the construction of a residence thereon, and shall be entitled exclusively to all the proceeds realized therefrom; but he shall have no surface rights therein; and the Superintendent of Mines may grant to the holders of adjacent claims such right of entry thereon as may be absolutely necessary for the working of their claims, upon such terms as may, to him, seem reasonable.

6. Every miner shall be entitled to the use of so much of the water naturally flowing through or past his claim, and not already lawfully appropriated, as shall, in the opinion of the Superintendent of Mines, be necessary for the due working thereof; and shall be entitled to drain his own claim free of charge.

7. A claim shall be deemed to be abandoned and open to occupation and entry by any person when the same shall have remained unworked on working days by the grantee thereof for the space of seventy-two hours, unless sickness or other reasonable cause be shown, or unless the grantee is absent on leave.

8. A claim granted under these Regulations shall be continuously, and in good faith, worked, except as otherwise

provided, by the grantee thereof or by some person on his behalf.

9. In tunnelling under hills, on the frontage of which angles occur, or which may be of an oblong or elliptical form, no party shall be allowed to tunnel from any of the said angles, or from either end of such hills, so as to interfere with parties tunnelling from the main frontage.

10. Tunnels and shafts shall be considered as belonging to the claim for the use of which they are constructed, and as abandoned or forfeited by the abandonment or forfeiture of the claim itself.

11. For the more convenient working of back claims on benches or slopes, the Superintendent of Mines may permit the owners thereof to drive a tunnel through the claims fronting on any creek, ravine, or water-course, upon such terms as he may deem expedient.

HEARING AND DECISION OF DISPUTES.

1. The Superintendent of Mines shall have power to hear and determine all disputes in regard to mining property arising within his district, subject to appeal by either of the parties to the Commissioner of Dominion Lands.

2. No particular forms of procedure shall be necessary, but the matter complained of must be properly expressed in writing, and a copy of the complaint shall be served on the opposite party not less than *seven* days before the hearing of the said complaint.

3. The complaint may, by leave of the Superintendent of Mines, be amended at any time before or during the proceedings.

4. The complainant shall, at the time of filing his complaint, deposit therewith a bond-fee, which shall be returned to him if the complaint proves to have been well founded, and not otherwise, except for special cause, by direction of the Minister of the Interior.

5. In the event of the decision of the Superintendent of Mines being made the subject of an appeal to the Commissioner of Dominion Lands, the appellant shall, at the time of lodging the appeal, deposit with the Agent a bond-fee, which shall be returned to the said appellant if his appeal proves to have been well founded, and not otherwise, except for special cause, by direction of the Minister of the Interior.

6. The appeal must be in writing and must be lodged with the Superintendent of Mines not more than three days after his decision has been communicated in writing to all the parties interested, and must state the grounds upon which the said decision is appealed from.

7. If the Commissioner of Dominion Lands decides that it is necessary to a proper decision of the matter in issue to have an investigation on the ground, or, in cases of disputed boundaries or measurements, to employ a surveyor to measure or survey the land in question, the expense of the inspection or re-measurement or re-survey, as the case may be, shall be borne by the litigants, who shall pay into the hands of the said Commissioner, in equal parts, such sum as he may think sufficient for the same, before it takes place; otherwise, it shall not proceed, and the party who refuses to pay such sum shall be adjudged in default. The said Commissioner shall subsequently decide in what proportion the said expense should be borne by the parties respectively, and the surplusage, if any, shall then be returned to the parties, as he may order.

8. All bond-fees adjudged as forfeited and all payments retained under the last preceding section, shall, as soon as decision has been rendered, and all entry and other fees or moneys shall, as soon as they have been received by him, be paid by the said Agent or Commissioner to the credit of the Receiver-General in the same manner as other moneys received by him on account of Dominion Lands.

ADMINISTRATION.

1. In case of the death of any miner while entered as the holder of any mining claim, the provisions as to abandonment shall not apply either during his last illness or after his decease.

2. The Minister of the Interior shall take possession of the mining property of the deceased, and may cause such mining property to be duly worked, or dispense therewith, at his option; and he shall sell the property by private sale, or, after ten days' notice thereof, by public auction, upon such terms as he shall deem just, and out of the proceeds pay all costs and charges incurred thereby, and pay the balance, if any, to the legal representatives of the said deceased miner.

3. The Minister of the Interior, or any person authorized by him, shall take charge of all the property of deceased miners until the issue of letters of administration.

A SHORT ROUTE.

J. G. C. LEWIS TELLS OF A NEW WAY TO REACH THE GOLD REGION.

Washington, Aug. 3, 1897.

There is a short and easy route to the rich gold fields of the Klondyke, according to a communication to the interior department from J. G. C. Lewis, a civil engineer of Salem, Or., who says he can open up, at small expense, a route from the mouth of the Copper river, by which the Klondyke may be reached by a journey of not much more than 300 miles from the coast.

The route which he proposes would start inland from the mouth of the Copper river, near the Miles glacier, about 25 miles east of the entrance to Prince William sound. He declares the Copper river is navigable for small steamers for many miles beyond the mouth of its principal eastern tributary, called on the latest maps the Chillyna river, which is itself navigable for a considerable distance.

From the head of navigation on the Chillyna, Mr. Lewis says, either a highway or a railroad could be constructed without great difficulty or very heavy grades through what the natives call the "low pass," probably the Scoloi pass. From this pass the road would follow the valley of the White River to the point it where it empties into the Yukon, on the edge of the Klondyke gold fields.

George F. Becker, in an unpublished report made to the geological survey, of his investigation in 1895 of the coastal gold districts, says that most of the island of the Alexander Archipelago contain gold deposits yet unworked, that would probably repay very handsomely well-directed efforts of placer mining. These deposits are in the neighborhood of Sitka and generally on Baroneff and Admiralty islands and the beaches of the adjacent mainland.

Another fairly promising region is in a group of deposits on the Kenal peninsula, on the southeast shore of Cook inlet, and the Yakutat bay and the beaches of Kadiak island. These regions have as yet been explored only to a limited degree, owing to the unfavorable physical condition of the coast.

Under orders issued by Acting Secretary of War, Meikeljohn, Captain P. H. Ray and Lieutenant Richardson, of the Eighth Infantry, have started from Fort D. A. Russell, Wy., for Alaska. Their orders are to go as far as Circle City, at least, and make as much of an investigation as the short time remaining will permit.

The following circular has been issued by the Northern Pacific Railway:

ST. PAUL, MINN., July 28, 1897.

To General and District Passenger Agents:

I append herewith copy of recent letter from Mr. I. A. Nadeau, our general agent at Seattle, relative to the recently discovered Klondyke region, in the Yukon district, Alaska. This letter is based upon the most authentic and reliable information now obtainable from those just re-

turned from this wonderful country. It will be of interest to you and those inquiring about the region.

The schedule following the letter showing supplies necessary per man—unless otherwise mentioned—is based upon interviews with returned miners and others from the Klondyke, and was actually so used by a party from Seattle going to the mines.

There are two established routes into the Klondyke country. One is via the ocean to St Michael's, thence via river steamer up the Yukon to Dawson City. The mouth of the Yukon River is sixty miles from St. Michael's; distance from St. Michael's to Klondyke, 2000 miles. Facilities on the Yukon consist of two stern-wheel steamers belonging to the Alaska Commercial Co., and the steamers P. B. Weare, J. J. Healy, of the North American Transportation & Trading Co., and a third boat, the C. H. Hamilton, of the latter company, which is expected to be ready in a couple of weeks. The Yukon is shallow in places, and it is impracticable to operate steamers having a draught of more than 4½ feet.

The other route, and the one which will be principally travelled is from Dyea, over the trail, via Chilcoot Pass, to Lake Lindeman, thence through the chain of lakes which you will see on any Alaska map into the Lewes River, and down the Yukon to the Klondyke. The route via Dyea is by steamer from Seattle running direct to Dyea, where they pack over Chilcoot Pass to Lake Lindeman, at which place they build boats usually 22 to 24 feet long and 4½ to 5 feet wide, which are taken through the lakes, while the provisions have to be packed over two short portages, one 1½ mile and one about ¾ mile, while the boat is taken through the small streams. The distance via this latter route is a follows :—

	Miles.	Miles.
Seattle to Juneau		899
*Juneau to Dyea		96
Dyea to Lake Lindeman	28	
Across Lake Lindeman	6	
Portage, Lindeman to Lake Bennett	1¼	
Across Lake Bennett to Caribou Crossing	30	
Across Tagish Lake	19	
Six-Mile River to Mud Lake	6	
Across Mud Lake	20	
Fifty-Mile River from Mud Lake to Lake LeBarge	50	
Across Lake LeBarge	31	
Thirty-Mile River to Hootalinqua River	30	
Down Hootalinqua and Lewes Rivers to Fort Selkirk	187	
Fort Selkirk down the Yukon to Dawson City	195	
Total distance from Dyea to Dawson City		603¼
		1598¼

Over the Chilcoot Pass, the highest elevation of which is said to be 2,600 feet, the trail in places is very steep, and outfits have to be packed over by men for a distance of eight miles, for the remainder of the distance pack trains are used. There are only two dangerous rapids encountered on this route, and they are at White Horse Rapids, between Mud Lake and Lake LeBarge, and at Five Fingers on the Lewes River, about eighty miles south of its con-

* If steamers, however, go direct to Dyea this distance would be shortened perhaps 20 miles.

fluence with the Pelly. So far as I can learn no serious casualties have occurred at these places. A few prospectors by unskilful management have lost their outfits, but Seattle parties who went in last spring state that with ordinary care there is no difficulty. For packing freight across from Dyea to Lake Lindeman it cost, if hired, from 18½ to 20 cents per pound. Some parties at Seattle yesterday contracted to have 15,000 pounds packed across at a rate of 18½ cents per pound.

On the Cleveland, which is to sail August 5th—accommodations all taken—the rate announced is $200 for all classes, but on September 10 the steamer Portland will sail from Seattle for St. Michael's, fare $100, including meals and berth.

The Klondyke is a stream, about 140 miles in length, ruuning in a generally westerly direction and the gold bearing creeks where the richest finds have been made, run into the Klondyke from a generally southerly direction. Two and one half miles of the Klondyke from its confluence with the Yukon, is Bonanza Creek which has several small tributaries. Twelve miles from where the Bonanza enters into the Klondyke, running approximately parallel with the Yukon is Eldorado Creek which is 12 to 15 miles in length. About four miles further up Bonanza Creek is Gold Bottom Creek. About seven miles further up is Adams Creek and then come several small streams which bear local names. Bonanza Creek is variously estimated at from 24 to 30 miles in length. Twelve miles up the Klondyke is Bear Creek, which also has a few small tributaries. About twelve miles further up Klondyke is Hunker Creek, and about the same distance from there up the Klondyke, is Too Much Gold Creek. The whole delta of these creeks is where the richest finds have been made and principally on the Bonanza and Eldorado, develop-

ment on the other creeks not being so far advanced although rich strikes are reported on all of them. About 50 miles south on the Yukon from Klondyke is Indian River which runs in a more south-westerly direction. Running out of Indian Creek is Quartz Creek, a well explored creek, about 50 miles from the confluence of Indian Creek and Yukon River. About six miles from the mouth of Quartz Creek, extending in a northerly direction to the range of hills which separate the delta of the Indian Creek from that of the Klondyke is First Left Hand Fork. About eight miles further up Quartz Creek, running in the same direction is Kettleson Fork. From the opposite side and running in the opposite direction out of Quartz Creek, about five or six miles from the mouth of Quartz Creek, is Phil Creek. These latter from latest reports are being extensively prospected and good finds being made.

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